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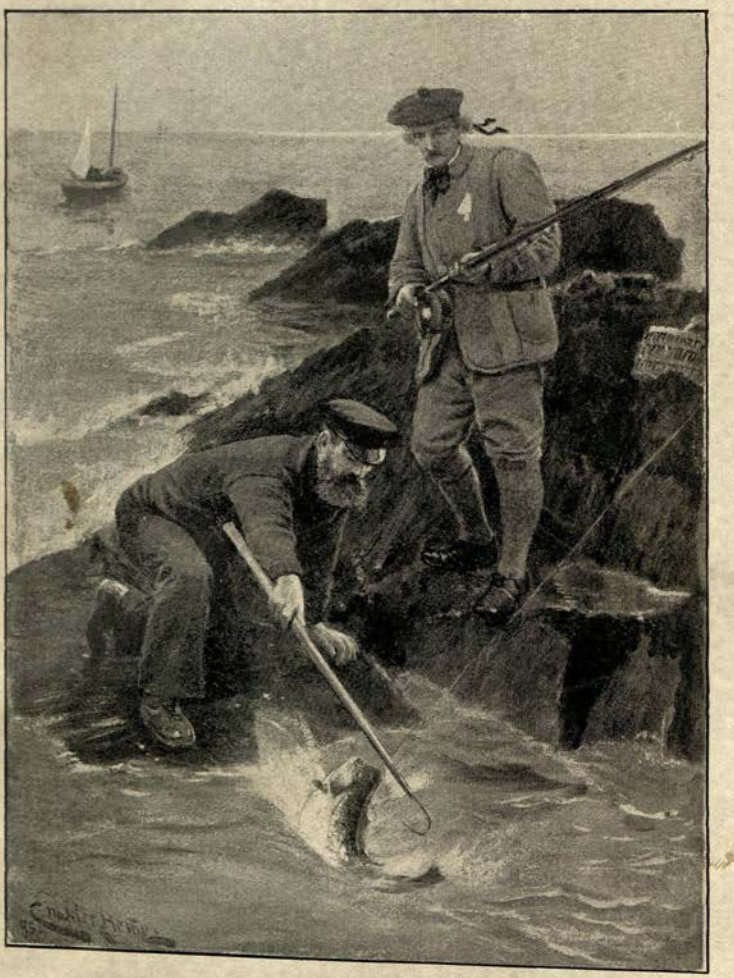
# *SEA FISHING*

N.N. C-61



'ON SOME ROCKY POINT—A WELL-KNOWN HAUNT OF BASS' (see p. 174)

# SEA FISHING

BY

JOHN BICKERDYKE

WITH CONTRIBUTIONS
ON
'ANTIPODEAN AND FOREIGN FISH' BY W. SENIOR
'TARPON' BY A. C. HARMSWORTH
'WHALING' BY SIR H. W. GORE-BOOTH, BART.

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*ILLUSTRATED BY*
*C. NAPIER HEMY, R. T. PRITCHETT, W. W. MAY*
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# *DEDICATION*

*TO*

# *H.R.H. THE PRINCE OF WALES*

BADMINTON : *May* 1885.

HAVING received permission to dedicate these volumes, the BADMINTON LIBRARY of SPORTS and PASTIMES, to HIS ROYAL HIGHNESS THE PRINCE OF WALES, I do so feeling that I am dedicating them to one of the best and keenest sportsmen of our time. I can say, from personal observation, that there is no man who can extricate himself from a bustling and pushing crowd of horsemen, when a fox breaks covert, more dexterously and quickly than His Royal Highness; and that when hounds run hard over a big country, no man can take a line of his own and live with them better. Also, when the wind has been blowing hard, often have I seen His Royal Highness knocking over driven grouse and partridges and high-rocketing pheasants in first-rate

workmanlike style. He is held to be a good yachtsman, and as Commodore of the Royal Yacht Squadron is looked up to by those who love that pleasant and exhilarating pastime. His encouragement of racing is well known, and his attendance at the University, Public School, and other important Matches testifies to his being, like most English gentlemen, fond of all manly sports. I consider it a great privilege to be allowed to dedicate these volumes to so eminent a sportsman as His Royal Highness the Prince of Wales, and I do so with sincere feelings of respect and esteem and loyal devotion.

BEAUFORT.

BADMINTON

# PREFACE

A FEW LINES only are necessary to explain the object with which these volumes are put forth. There is no modern encyclopædia to which the inexperienced man, who seeks guidance in the practice of the various British Sports and Pastimes, can turn for information. Some books there are on Hunting, some on Racing, some on Lawn Tennis, some on Fishing, and so on; but one Library, or succession of volumes, which treats of the Sports and Pastimes indulged in by Englishmen—and women—is wanting. The Badminton Library is offered to supply the want. Of the imperfections which must be found in the execution of such a design we are

conscious. Experts often differ. But this we may say, that those who are seeking for knowledge on any of the subjects dealt with will find the results of many years' experience written by men who are in every case adepts at the Sport or Pastime of which they write. It is to point the way to success to those who are ignorant of the sciences they aspire to master, and who have no friend to help or coach them, that these volumes are written.

To those who have worked hard to place simply and clearly before the reader that which he will find within, the best thanks of the Editor are due. That it has been no slight labour to supervise all that has been written, he must acknowledge; but it has been a labour of love, and very much lightened by the courtesy of the Publisher, by the unflinching, indefatigable assistance of the Sub-Editor, and by the intelligent and able arrangement of each subject by the various writers, who are so thoroughly masters of the subjects of which they treat. The reward we all hope to reap is that our work may prove useful to this and future generations.

THE EDITOR.

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# MODERN SEA FISHING

## CHAPTER I

### INTRODUCTORY—CHARTS, TIDES, ETC.

THIS book being a contribution to the Badminton Library, it is perhaps hardly needful to explain that it deals mainly with the sportsman's side of sea fishing. People who are only acquainted with the comparatively rough methods of professional fishermen may be disposed to declare that there is no sport to be obtained in the sea. But those who do me the honour of perusing the following pages can hardly fail to be convinced that salt water is as sport-yielding as fresh, and that there are many kinds of sea fish so wary and such powerful swimmers that in their capture the knowledge and skill of the sportsman are all important. In the sea, as in rivers, there are certain conditions—particularly thick water or darkness—under which fish can be caught with the roughest possible tackle and the most primitive methods. But in the long run the angler who uses moderately fine tackle, an average intelligence, and strikes and plays the fish he hooks with the skill he has acquired on lake or river, will most certainly score the greatest successes—in proof of which I will give illustration later on.

I cannot, of course, claim to be the originator of rod and line fishing in the sea. That has been carried on wherever coasts are steep and rocky, as in the West of England and other places, for many years—perhaps from time immemorial.

But it was not until a little book of mine, called 'Angling in Salt Water,' was published in the year 1887, that the attention of any considerable number of freshwater anglers was attracted to the possibilities of sport afforded by the sea, and to the advantages of using therein freshwater tackle with certain modifications. As an instance of what skilful anglers now do when they visit the seaside, I may be allowed to quote a short extract from an anglers' paper.[1] It is merely one of the weekly reports sent in by a regular correspondent, who in this case is the second coxswain of the lifeboat at Deal and owner of an unpretentious hostelry where London fishermen of the middle class much resort. It should be understood that the takes mentioned are not ordinary ones, and that fishing for whiting and cod at the place in question is only really good during the period of spring tides in autumn. All the gentlemen referred to in the report would be fishing with rods, and, probably, gut paternoster tackle, with leads varying from a quarter of a pound to perhaps a pound or more; and it is pleasing to find it for once admitted that the amateur angler has succeeded better—thanks to his superior skill and improved gear—than the professional fisherman.

DEAL.—Like Cæsar, they came, they saw, and they conquered. The members of the British Sea Anglers' Society may fairly lay claim to this motto, for they have come and taken the wind out of our local fishermen. The following particulars will be read with interest. On the 9th instant . . . . 282 lb. weight of fish were brought in, and there were no cases of sea-sickness. Mr. Norman took a whiting, 2 lb. 3 oz.; Mr. Vail, one of 2 lb. 10 oz. Saturday, the 10th, was a most lovely day, and the takes were even better than the preceding one. Messrs. Gould, 47 lb., and a nice cod of 7 lb. 10 oz., besides codling; Jaques, 45 lb.; Alec Wright, 40 lb.; Vail, 38 lb.; Wm. Marshall, 34½ lb.; F. W. Norman, 31½ lb.; J. C. Bartlett, 27 lb.; W. F. Dyer, 31 lb.; Parker, 26 lb.; J. P. West, 18½ lb.; Raison, 18½ lb.; in all 357 lb. of whiting, besides cod. Mr. Chatto, of the Haymarket, took 200 whiting and 6 codling, Tom Norris being in charge. Nov. 14, Messrs. A.

[1] *The Fishing Gazette* of Nov. 17, 1894.

Dangerfield, T. Chatto, and Geo. Brook went out with Tom Norris in a galley punt and caught 200 whiting and dabs and 14 large codling, Mr. Brook being credited also with a fine-looking cod of 9 lb. Mr. Capel Cure, with Dick Riley, had a nice catch of whiting and a cod of 14 lb. 9 oz. after being cleaned. Messrs. Alfred Rolls, A. W. Taylor, and George Green were out with H. Norris and myself, and we secured 420 whiting, 21 fine codling, and a few dabs. Mr. Ball and his son went out at 8 A.M. intending to fish near the Break Buoy, but after a short stay there, were obliged to put back owing to increase of wind and tide; they, however, anchored near the Second Battery and took 119 whiting and 3 cod of 8 lb., 5 lb., and 3½ lb.; Messrs. Capel Cure and Collins also had excellent sport with whiting and cod. Pier fishing has been extraordinary, for the weather has been glorious, and large takes of fish have been the rule. The above records may read like a fairy tale, but, fortunately, they can be substantiated, and with such weather Deal has become a perfect anglers' paradise. Everyone knows the uncertainty of our climate, however; and readers will have already been made acquainted with the rough weather we have recently experienced, but I anticipate some grand sport as soon as the sea thins down.—EDWARD HANGER.

The following week another remarkable catch was reported from Great Yarmouth, made by Captain Clowes in the Roads close to Wellington Pier. It consisted of twenty fish weighing 150 lbs., the largest 30 lbs. The species is not mentioned, but without much doubt the fish were cod.

The fishing described in the report from the Downs, good as it is, can hardly be called the highest form of sea angling regarded from a sportsman's point of view, but it gives evidence of the fact that within an easy ride of London, in water which is fairly slumbrous, and at no great expense, a hamper of edible fish may be caught with much the same tackle as we should use for perch fishing. I could mention many other takes, made by amateur sea fishermen, which go to prove that our modern methods of sea fishing are attended with great success, and that the rod is a valuable addition to one's gear if judiciously used, though sea fishermen of the old school are inclined to smile at it. The following captures are within the experience

of one clever and enthusiastic sea angler of my acquaintance:—To begin with, thirteen and a half dozen dabs and plaice, from ¾ lb. to 2½ lbs., in half a day's fishing. Twelve dozen whiting pouts, none under 1 lb. and some over 2 lbs., in half a day. Twenty-seven and a half dozen dabs in Torbay in two hours, taken by two rods, with a little assistance from a third, breaking the local record. A mixed bag of six dozen heavy fish—conger, skate, bream and pollack—taken in a rough sea in five hours. About three dozen pollack and coalfish, varying from ½ lb. to 6 lbs.; three coalfish being caught at once (on a light single gut cast), weighing together 10 lbs. The baits were soleskin flies. Twenty pollack, 4 lbs. to 9 lbs. each, taken on flies, in a little over one and a half hour. Eighty-seven coalfish, ½ lb. to 4 lbs., caught by fair casting with a white fly, in about three hours one evening.

Bass, pollack, coalfish, and, less often, the grey mullet, are fish which, when in the humour, take the fly readily enough; and by *fly* I mean just that combination of fur and feather, which is intended by the salmon fisher when he uses the same expression, and represents a small marine creature of some kind or other. Of course there is no rise of pale watery duns, or jenny spinners, or mayflies on the sea. An odd butterfly or two, migrating from the Continent, may perhaps be drowned and eaten by a hungry billet or mackerel, but fly fishing in the strict sense of the word does not exist.

Bass, particularly if large are not easily caught, and in the grey mullet the angler has a fish which will test his skill and patience beyond measure. In addition to bottom fishing as illustrated in the reports of the excellent takes of fish made at Deal, and fly fishing, in respect of which I refer now only to three fly-taking sea fish, there is ordinary float fishing in shallow water (such as one finds in harbours) for flat-fish, smelts, whiting pout, and other small fish. Spinning, or trolling as the Scotch term it, can be carried on in the sea for just the same fish as will take the fly, and live baiting, very much

after the methods of jack fishermen, can be practised with much advantage in respect of a great variety of sea fish. Leaving legendary fish out of consideration, no pike ever afforded the angler such wonderful sport as do the tarpon of the Gulf of Mexico. Was it not related of a certain tarpon-slayer that, having been towed about for some hours by a fish which he had hooked, he landed on an island, tied his line to a tree, and rowed to the mainland for assistance? Further, that on his return the island had disappeared? The story is one for the accuracy of which I cannot personally vouch, but it certainly serves to illustrate the immense strength of this big herring, or 'silver king,' as it is often called. It is not surprising that the tarpon fishing of the Gulf of Mexico grows in popularity apace. There are now hotels mainly supported by anglers and called 'tarpon hotels.' A great many Englishmen are beginning to make annual visits to America, simply to enjoy this novel form of sport. More than this on tarpon I must not say, for later on will be found a special contribution on the subject, written by Mr. A. E. Harmsworth.

Turning to still larger fish, we come of necessity to sharks and whales. As regards foreign sharks, both Mr. Harmsworth and Mr. William Senior have something to say. With reference to whales, I am constrained to admit that they do not find a place in the angler's creel. They are not, strictly speaking, fish; yet they afford such excellent sport when harpooned—sport which involves so much courage, skill, and endurance, and brings out so many of the highest qualities of man in those who pursue them—that the chapter on Whale Fishing by Sir H. Gore-Booth which brings this volume to a conclusion will surely be read with interest by even those who have no inclination to join the huntsmen of the sea in their pursuit of the largest existing mammal of creation.

In addition to the branches of sea fishing or sea hunting which I have already mentioned, I have borne in mind that sea fish are frequently an important food item on board yachts, and that yachtsmen sometimes desire to fish in places where,

owing to the depth and force of the tidal currents, very heavy leads are required and long lines or the ordinary hand lines must be brought into requisition. I propose, therefore, to describe hand lining, so far as may be necessary, and to give such general information about long lines, trots, and two or three kinds of nets, as may be useful to yachtsmen.

Fish cookery is touched on here and there throughout the following pages, but I would here remind the sea angler that cod and most other large sea fish are not a little improved for the table, if they are knocked on the head and gutted as soon as caught, and towed after the boat for an hour or so. They can be also sliced in the manner known as crimping. The operation, performed at the fishmonger's long after the fish is dead, has no value whatever; but it is commonly done, and a higher price obtained for the fish in consequence.

Perhaps it may be thought that any form of fishing in which hook and line do not come in is unsportsmanlike. But a very great deal of amusement can be obtained on certain parts of our coasts during spring tides by hunting among rocks at low water for large crabs, lobsters, and congers. The weapon is an iron hook, the use of which really involves more skill than many methods of line fishing. So I have made shell-fish hunting, including prawning and shrimping, a part of my subject.

The amateur sea fisher would indeed have reason to be thankful to anyone who would compile a guide, showing exactly the sport to be expected at all seasons of the year at every fishing town or village round the British and Irish coasts, with the marks of the best fishing ground, and information as to local baits obtainable. I am afraid such a book will never be written. Mr. F. G. Aflalo's 'Sea Fishing on the English Coasts' is a first step in that direction, and it is to be hoped that the subject will be carried much further. One chapter is here devoted to an endeavour to give a good general idea of the fishing round our coasts; but for the rest the man who seeks sport in the sea will have to find out much for himself. If a member of the British Sea Anglers' Society he can, of course, obtain the

HUNTING AMONG ROCKS AT LOW WATER

benefit of such advice as the executive of that body is in a position to give.

A word here as to this Society, which was formed with the object, amongst others, of popularising sea fishing as a sport, may not be out of place. The Society came into existence in the spring of 1893. Sir Edward Birkbeck, Bart., is its President, and it includes among its supporters Lord Brassey, Lord St. Levan, Sir Harald G. Hewett, Bart., Sir George R. Sitwell, Bart., M.P., Sir Albert Rollit, M.P., Captain Lambton Young, Mr. R. Biddulph-Martin, M.P., Mr. R. B. Marston, Mr. H. Cholmondeley Pennell, Mr. W. Senior, Mr. T. A. Dorrien-Smith, Mr. J. C. Wilcocks, and a number of other gentlemen who are either enthusiastic sea fishers or have shown an interest in the preservation of our sea fisheries and the welfare of sea fishermen. The gentleman who was until 1895 honorary secretary, and may be termed the principal founder of the Society, is Mr. F. G. Aflalo. He has been succeeded by Mr Henry Ball. I had the honour of presiding over the public meeting at which the Society was formed. Provided the British Sea Anglers' Society, which has offices at 66 Haymarket, is sufficiently supported, it will be able to do a very great deal for the benefit, not only of its members, but of many others who are interested in sea fishing. It is in the first place a corporate collector of information from corresponding members dwelling at or visiting different parts of the coast. It aims at establishing branches in all important sea-coast towns, with boats and men of their own, and has in many places made arrangements with the boatmen and hotel-keepers for special terms for its members. It has already induced some of the railway companies to issue tickets to its members at greatly reduced fares to certain places on the east coast during the autumn months.

As the subscription is a nominal sum, the list of members ought to grow apace. I believe at present there are about three hundred, not including those belonging to the branch societies, at Scarborough and Yarmouth, of which Mr. J. W. Blakey, editor of the 'Angler,' and Mr. Lovewell Blake are the honorary secre-

taries respectively. Some day the Society may become a power in the land, and its advice may be sought on the many difficult problems the Government have to face when legislating for the better preservation of sea fish. The opinions given by the professional sea fishermen are, as a rule, unconsciously biased by personal considerations. The worthy fellows are very apt to form rough and ready conclusions which a scientific observer with a quarter of their experience could say with certainty were inaccurate. The members of the British Sea Anglers' Society, on the other hand, come of a class consisting mainly of intelligent, educated men, and their observations on baits, the migration of fish, and kindred matters are likely to be of considerable value. Certainly in drawing general conclusions the educated, practical, amateur sea fisherman is less likely to go astray than the uneducated professional fisherman and the unpractical scientist. Talking of conclusions, I have endeavoured to explain in Chapter VIII. how trawling in territorial waters is not only inimical to the sport of the sea angler, but also most injurious to certain fisheries and to the local professional fishermen who depend upon them for a subsistence.

Ought I to offer an apology to sportsmen for including in this volume the chapter on the Ocean Fishing Rod? The tackle used is anything but delicate—twisted wire is a constituent—and the bait is attached to a hook large enough to hang up a leg of mutton. Even into ocean fishing the rod has been of late years introduced, for it is necessary to boom out the line to keep the bait clear of the débris which is constantly being thrown overboard. Moreover, when a vessel is going at a high rate of speed, and a large fish seizes the bait attached to an unyielding line which is firmly fixed to the rail, as often as not there is a break. But the ocean fishing rod—a little thing of forty-five feet or so—takes the first shock, the line is often saved from disaster, and the giant mackerel of eastern seas are successfully gaffed and hauled on board. Whether it be considered sport or not, this method of fishing yields considerable amusement; and serves not only to relieve the monotony of a

long sea voyage, but provides more or less excellent fresh fish for the table.

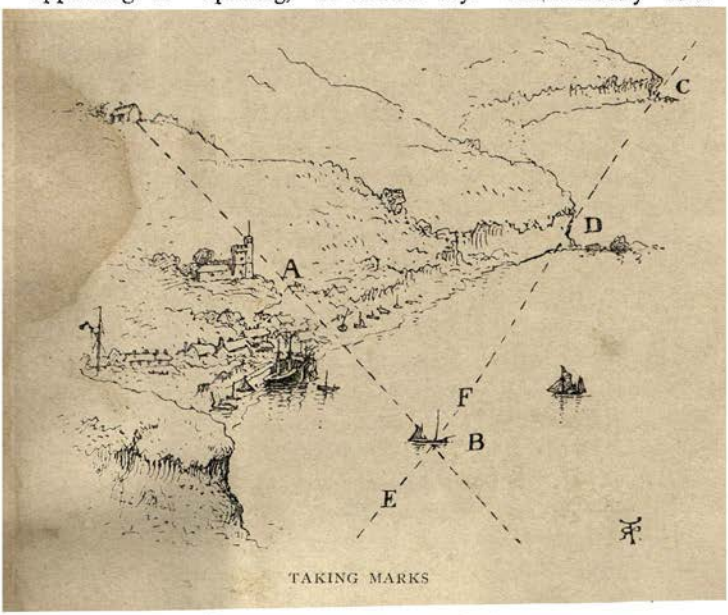
The chapter on Baits is one of the most important in the book, and I earnestly commend it to the attention of the tiro, together with the remarks on 'Where to go.' Those who know but little of sea fishing appear to have a general idea that the whole thing begins and ends in hiring a boat, rowing out straight to sea for a mile or so, coming to an anchor, and letting down to the bottom hooks baited with pieces of any refuse fish which can be obtained from the fishmonger. But sea fish are as local in their habits as those which dwell in fresh water, and whether fishing near the bottom, drift line fishing, or whiffing, it is of the first importance to go to places where the fish are commonly found, to use suitable baits, and to be sure to place them where they can be seen by the fish.

The man whose knowledge of nautical matters is limited to that derived from a sojourn of twenty minutes or so in or near a bathing machine at a South-coast watering-place may deem it a hopeless task to pick out a certain definite spot on the wide waste of waters which spreads out all round our shores. The professional fisherman finds no difficulty in the matter, provided there is light enough to see particular marks on the coast. By marks are not meant chalk marks or anything of that kind, but trees, barns, headlands, hills, churches, homesteads, in fact anything sufficiently conspicuous for the purpose, and the more durable the better.

For every position on the open sea two sets of marks are necessary. In the diagram these are represented by two headlands to the eastward, and by a church tower and an old barn to the northward. We are stopping, say, in a little fishing village in Devonshire, in the bay at A, and we know that at the point B there is a noted ledge of rocks in the cavities of which dwell many enormous congers, large shoals of bream swimming near, which can be caught any night during the summer if the sea be not too rough. Of course we have a general idea of the direction, and know, or have been told, the bearings.

That is to say, as soon as the second headland (c) opens out to the eastward we know we are on one line of the marks, and shall be in the desired position when, keeping the two headlands in a line, we also find the church in a line with the old barn on the hill-top.

The first thing, then, to do is to strike one pair of marks by steering out to sea until we can see the second headland c appearing or 'opening,' as sailors say. Immediately both



TAKING MARKS

headlands are visible we steer towards B, being careful to keep them in a line until we find the edge of the church tower in a line with the barn, when we know we are exactly on the right spot. If we lower our killick stone or anchor exactly at B and the tide is running strongly towards the westward, or there is an east wind blowing, we shall be carried beyond B to, let us say, E. To prevent being misplaced in this way it is necessary to row the boat back a sufficient distance say to F,

and then let go the anchor so that when the cable is paid out the little craft will be on the spot B.

Generally speaking, the sea angler will be glad to avail himself of the marks known to the fishermen, if he can discover them. I need not point out the extreme value of such knowledge. Whenever a good catch of fish is made, on a ground which is new, it is an excellent plan to enter the marks by which the place may be known again in a notebook or on a chart. In taking these new bearings the imaginary lines which are drawn towards each pair of marks should be at right angles or thereabouts, if possible, and the marks themselves should not be too near together. To take the part of the coast shown in the sketch as an example, the barn should be some considerable distance from the church. At night-time it is extremely difficult, often indeed impossible, to take new marks or place one's craft on old ones, unless there are certain well-known lights which will serve as a guide ; as, for instance, lighthouses, and lights coming from the windows of houses or at the head of a pier.

I have on more than one occasion found the study of marks extremely valuable, even when I have been out with men who were professional fishermen, and might be expected to exercise reasonable care in placing the boat correctly. A very few yards one way or the other will often make all the difference between catching fish or missing them. On three successive days I had wretched sport in Broad Bay, off the Island of Lewis, owing to the crofters who were with me being careless in this matter. They knew the marks well enough and told me them without hesitation. As soon as I found we were not quite on the spot which was generally considered the best fishing ground, I made them move the boat about twenty yards, and we at once began to catch fish ; and I do not think that at any subsequent time we were unsuccessful at that particular place. Those who set lobster or crab pots, trots, and long lines, unless most careful in taking marks correctly, will run very great risk of never seeing their property again. Except when the sea is absolutely calm there is nothing more

difficult than to find the pieces of cork which are used to mark the pots or lines. Even so large an object as an upturned boat is soon lost to sight in a rough sea.

Closely connected with this part of my subject are charts. It will be seen later on that certain fish affect certain bottoms; some preferring rock, others sand, others again marl. An Admiralty chart is supposed to show not only the depths or soundings, but also to indicate the nature of the bottom, the direction and speed of tidal currents, and generally to give information of value to those who have anything to do with the sea. At the same time special *fishery* charts are needed, and it is to be hoped that the Admiralty or Board of Trade will see the necessity of preparing something of the kind. At present we must make the best of what we have, and whenever any new place is visited the fisherman should buy a chart and note on it the marks of the best fishing grounds. When entering marks on the chart it is a simple matter to indicate with a few pencil lines the tree, barn, church, or whatever they may consist of, not drawing the things elaborately, but sufficiently plain to recognise what is intended. If the marks consist of one headland opening behind another, draw a line between the two headlands and continue it out to sea until it meets the line drawn from the other pair of marks. A note should be made of the kind of fish to be expected at the place, the best time of year, and any bait which is particularly successful there; for it is a curious fact that baits which will kill at one place may not answer so well in others. Sometimes, too, the fishing ground can only be worked at certain states of the tide, and this also should be carefully noted.

The Admiralty charts can be obtained at Stanford's, Charing Cross, and other places. There are general charts, secondary or coast series, and special charts of particular bays and inlets where the navigation is difficult, and the chart has to be made on a large scale to show the rocks, &c., and the fairway for large vessels. If a special chart is published of any place which the sea fisherman proposes to visit, it should certainly be obtained; for the larger the scale the more complete the

information given. To show the distinction between the different sizes and kinds of charts, the Bristol Channel, the greater portion of the English Channel, and the coast of South Wales are covered by two large *general* charts. A *secondary* chart includes the Bristol Channel; while there is a *special* chart of Carmarthen Bay, which is a part of the Bristol Channel. There is also what I may term an *extra special* chart of Burry Inlet, which is within Carmarthen Bay. It is well to get an index of charts from Stanford's, Charing Cross, at the cost of sixpence, which serves to show whether or not special charts are published of the places one wishes to visit.

It may be useful to add that charts cost from sixpence to five shillings, a half-crown being the most general price. The outlay is not large, and a little study of the chart sometimes puts a stranger almost on an equal footing with the local fisherman. To show oneself the possessor of a little knowledge places a considerable and useful check upon the inventive faculties of the boatman.

The charts are covered with figures and various letters, each of which has a particular meaning. The figures mostly refer to the depths, but there is no fixed rule as to whether the depths are given in feet or fathoms, a fathom being two yards. At the same time, it may be said that on the large general charts, where the depth to a foot or two is unimportant, they are usually given in fathoms, but on the special charts the depths appear in feet. This point is of course explained on each particular chart. The depths stated are those of the sea at low water during spring tides. In other words, it is the least depth there ever is on that particular part of the coast; but even this statement requires some qualification, because, should there come a tremendous gale of wind, the water may be forced back and brought to a slightly lower level at low tide than is given on the chart.

The various letters, &c., on charts are so numerous that it is almost necessary to have the little sixpenny book interpreting those signs and abbreviations. M. as a rule means

mud, St. stone, S. sand. Rocks above the surface are shown by a cross, while R. indicates rocks below the surface. As an instance of the abbreviations used, Sp. 3Kn., Np. 2Kn., means that the tidal current runs at the speed of three knots an hour during spring tides, and two knots an hour during neap tides. Of course all this will be in the nature of A B C to yachtsmen; but a great many men who now go sea fishing know nothing of these matters, and for them the information is intended.

I am afraid that the ordinary man generally gives up any attempt to understand the tides as hopeless, and 'ebb,' 'flow,' 'neap,' and 'springs' are to him unmeaning terms. Yet on a study of the tides the success of the man who fishes with hook and line greatly depends. I do not propose to go into any elaborate explanation of the causes of tides, or to use any scientific terminology; but it is so extremely important that the sea fisherman should have some knowledge of the subject that I will attempt to explain the matter in such a way that a schoolboy of ten years old could understand, and more than that can hardly be expected of any writer.

The water in the sea flows for a certain number of hours in one direction; then comes almost to a standstill, and begins to flow for a certain number of hours in the opposite direction. If we are on the sea coast—on an arm of the sea, such as the Bristol Channel, as the tide comes flowing in the Channel fills up, and the water gradually rises. Sailors say the tide is *flowing*, which is practically equivalent to saying the water is rising.[1] When it has risen to its full height the term *flood tide*, or *high water*, is used. When the tide turns and the water begins to run in the opposite direction, it is said to be not flowing, but *ebbing*, and the period during which the water ebbs is termed the *ebb tide*. Just between the end of the flood and the beginning of the ebb, or, in other words, at the turn of the tide, the speed of the tidal current gradually falls off, or *eases*

[1] In some places—e.g. in the Downs—owing to the configuration of the bottom, trend of the coast, &c., curious tidal currents are formed, with the result that water continues to flow some time after it has begun to fall.

(in nautical language), until there is no perceptible current whatever. Then the water starts ebbing in the opposite direction, slowly at first, and quickening until it reaches its full speed, falling off or slackening again as we get to the end of the ebb. In many places the tidal current is so strong that it is impossible to let down a line and keep the lead on the bottom except during the hour or so immediately before and immediately after the turn of the tide—that is to say, when the tide is slack.

The actual number of feet the water rises and falls varies every day, and will be found stated in the tide tables, which should always be bought. In the Bristol Channel the rise on some days is as much as twenty-two feet, while on others it will be as little as fifteen or sixteen feet. On some parts of the coast the rise is comparatively insignificant—five or six feet perhaps. Every fortnight we have almost the greatest variation in the rise of the water—that is to say, the highest water at the flood and the lowest water at the ebb : these are called *spring tides* (the term has nothing whatever to do with the spring of the year), and occur at the times of the new and full moon. The spring tide of the full moon, when the best fishing is usually obtained, is somewhat greater than the spring tide which occurs when the moon is new. Between the periods of full and new moon occur the neap tides. The tide in most places rises or flows for seven hours, then ebbs or falls for five hours ; and it is not difficult to understand that if a given quantity of water has to rise twenty feet in seven hours, it will flow with much greater speed than the same quantity of water when it has only to rise fifteen feet in the same time. Therefore the currents of the spring tides are very much more rapid than those of the neap tides.

River fishermen are well aware that the incoming of fresh water caused by rain, or the rising of springs, or the melting of a glacier, as a rule brings the fish on the feed. Doubtless it stirs up their food, and, perhaps, also sharpens their appetite, as a good blow from a nor'-easter does ours. The increased

current in the sea during spring tides may, therefore, account for the fact that the fish feed better then than at other times. This I lay down simply as a general rule, having met with not a few exceptions. At some places the tidal currents may be so strong during spring tides that it is almost impossible to fish at all except with drift lines near the surface. In the Solent, for instance, are very strong currents, and the fishermen of the Medina rarely attempt to catch whiting, which are plentiful off Cowes in the autumn, during the spring tides. Even in the less strong currents of the neaps, the only fishing carried on is during the two hours immediately before and after the turn of the tide. Not only are the tidal currents overwhelmingly powerful, but they bring with them at times immense quantities of floating seaweed which load the lines and offer such resistance to the water that very heavy leads are lifted off the bottom. Leaving out of consideration long lines which lie on the bottom and are heavily weighted to prevent fish from going off with them, it is mainly owing to the strong tidal currents that the sea fisherman sometimes has to use most ponderous leads on his substantial lines—stout, not more for strength than for comfort in the handling. It is always desirable to use as light leads as possible, and as the tide is at one time not running at all and a few hours later may be racing four or five knots,[1] the sea angler should provide himself with leads of different weights which he can change from time to time. The professional usually neglects this refinement, and you may see him fishing with a three-pound weight in perfectly still water, where an ounce lead would suffice. The lighter the lead, within certain limits, the easier it is to feel the bite of the fish and to strike him ; and the amateur sea fisherman will often catch very many more fish

[1] A nautical mile is about 260 yards longer than a land mile. The knots on the log line are 50½ feet apart. That is to say, there would be 120 of them in a mile of line. Thus, as there are 120 half-minutes in an hour, the distance between two knots is in the same proportion to a mile as half a minute is to an hour. Therefore, the number of knots which run off the reel in half a minute is equivalent to the number of miles per hour the vessel is running. Patent logs are superseding the old knotted log line.

than the professional, simply and solely because he uses the lightest lead possible under the circumstances.

When visiting a new place it is most desirable to learn the local peculiarities, especially with regard to the tidal currents, as soon as possible. One good fishing ground may be only approachable during neap tides; on another very few fish will be caught except during the full run of the highest spring tides. Again, certain places may be absolutely dangerous during spring tides. For instance, the race off Caldy Island is by no means a safe place for a small boat when the tide is ebbing fast down the Bristol Channel. I was once caught there myself when fishing for mackerel. There was a very slight breeze blowing, and we were half sailing, half drifting along with the tide. I was paying little attention to the land, but, looking up, saw that we were passing it at an amazing rate, and that in front of me were moving hills of water. Before I could alter the course of our little craft we were among these said hills, and a very lively time I and a little Welsh boy who was with me had of it. The wind had suddenly lulled, and the water, though glassy and calm, was rising and falling very much after the fashion of stage billows—manufactured, I believe, by means of a strip of sheeting, the ends of which are held at the flies by two men and waved violently up and down. By great good luck a breeze at last reached us, and by its assistance we were able to get the boat close to the island, where we lowered our sails and rowed along the shore, taking advantage of every piece of slack water. About a month after this little incident I was coming home from fishing one night in a pilot's lugger. There was nothing on board in which to bring the fish up to the house except the ship's only bucket, and the pilot's nephew was about to use it for this purpose when the old man stopped him sternly and exclaimed, 'No! not for a hundred pounds shall that bucket again go out of the boat!'

That a Welshman should decline a hundred pounds—assuming it had been offered him—for the temporary use of a bucket, was odd. The next day I ascertained the reason of

the old man's apparent eccentricity. One day, when beating about in Caldy Roads, he sighted a ship which was flying a signal for a pilot. There was a stiff breeze blowing, and nothing more is required to create a big sea off the Point. But the lugger was staunch, and her skipper had often been through the race before and thought little of it. However, this time he shipped a big sea which half filled the boat, and, to his horror, found there was absolutely nothing on board with which to empty her. The little vessel, though quite large enough, had no pump, and the bucket had been left behind. She all but foundered. Hence the extraordinary value placed upon the ship's bucket.

A good deal of fishing is carried on from reefs of rocks which are exposed at low water or otherwise ; and it frequently happens that towards the end of the reef the rocks are rather higher than in the centre. Thus anyone fishing from the end rock, which will, as likely as not, be the best spot, is liable to be cut off from the land as the tide rises. Not a few lives have been lost from this cause, so I venture to sound a note of warning.

Occasionally we hear of people being swept from rocks by waves of unusual height. There was a very sad case of this kind at Filey, which, I believe, is recorded on a tablet fixed in the cliff side. A pathway is cut in the rock, far above high-water mark, but some persons who were walking along it when, so I was told, the water was low, were swept from it by an extraordinary wave. I heard of a similar case in Ireland, at Kilkee, and therefore make the suggestion that anyone fishing from rocky reefs during a heavy swell should keep his eyes open for marine eccentricities of this kind. Of course, anglers do not fish from rocks in very rough weather, but on the lee side of headlands there are sometimes eddies which are fishable even in half a gale.

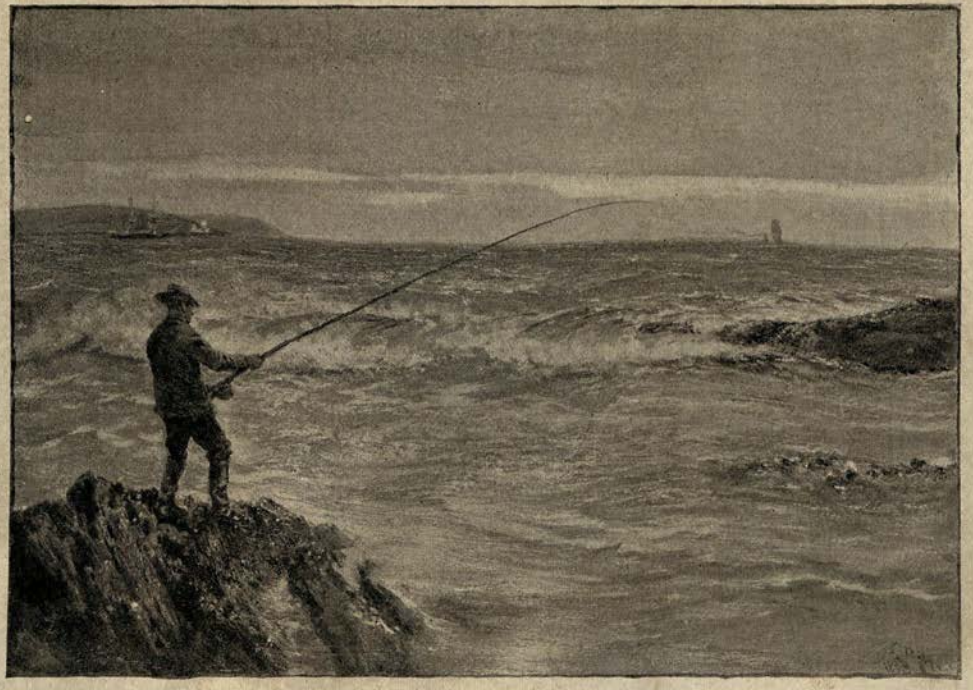
But to return to our tides. Not only should the ways of the tidal currents be learnt so far as they have bearing on the catching of fish, but they will repay some slight study in con-

nection with the journeyings to and from the fishing ground. It is obviously an unwise thing, at a place where the tidal currents run strongly, to arrange a fishing trip so that at the end of the day one has to beat back against tide and wind. Always manage, if possible, to have the tide with you on the homeward voyage, even if there is a fair wind. There is nothing more uncertain than the weather in this part of the world (that is why it is such a common and useful topic of conversation), and it does not follow that because there is a fine south-westerly breeze in the morning, when we set sail, it will continue to blow in the same direction, or at all, in the evening. If the wind drops towards night, as it very often does, if the little vessel is too heavy to row, and the tide is against us, what is to be done? Obviously nothing but to wait for the turn of the tide or the return of the breeze. As this wait may be of some duration, to have a reasonable supply of food and water on board when going more than a mile or two from land is always a wise thing. I was once myself reduced to considering whether there was any satisfaction to be obtained out of the end of a composite candle, supposing my hunger increased, for that was all we had on board. Water-barrels therefore, in my opinion, should always be carried on expeditions made under sail, and if there are a couple of loaves placed on board to meet any emergency, so much the better. It is wonderful how good plain water and dry bread taste after a long fast.

Those who are well acquainted with rivers and the peculiar workings of running water will find in the sea—I am not speaking of the ocean, but of the channels between England and France and the like—all the characteristics of a river, on a large scale. There will be slack water at the sides, particularly in bays, strong streams, or races, off headlands, and enormous eddies on one side of such headlands. Where the sea is shallow or narrow the currents will probably be stronger than where it is deep or wide. As in rivers, also, the colour of the water will depend in a great measure on the nature of the bottom. On rocky coasts, such as Cornwall and Wales and the

north-west coast of Scotland, the sea is brilliantly clear and takes the most lovely reflected lights, according to the condition of the sky and atmosphere. Where the water is so very bright, and a greenish tinge is noticed, the bottom may be sandy ; a purple colour indicating dark rocks, covered or not with seaweed. This very clear water is by no means favourable to successful sea fishing, except with fine tackle, or on moderately rough days, or at night. After a storm, the water near the coast on which the waves have been beating may be slightly thickened for some days for a mile or more out to sea ; and heavy rains and floods inland will colour the sea for a good many miles on either side of the mouths of great rivers. Of course, where the angler is troubled with over-clear water he should not neglect the additional advantage given him by discoloration caused by flood or storm.

I was very much amused with an amateur sea fisherman at a place I went to with the express object of catching big bass which, that year, were a delusion and a snare ; in fact, they almost seemed to have left the locality for several years past. I had been drawn to the place by some most charming —in fact, almost poetical—descriptions written by a literary angling enthusiast who quite neglected to state that the excellent fishing he described was of some antiquity, and not known in the present day. I met with this brother fisherman—not the enthusiast, but the other—and he told me that if I would be successful with the bass of that particular place, I must wait until I could obtain certain conditions : In the first place, there must be a spring tide ; secondly, the north-west wind must have been blowing for three days to colour the water ; and, thirdly, I could not hope for success unless the trawlers had been catching skate, whose liver I was to use as bait ; and, fourthly, I was to get up exactly an hour before daybreak and sit patiently on a rock, waiting for the bass to come by. I do not doubt for a moment that the advice was very good. It was excellent ; that is unquestionable. Just before daybreak is a deadly time for bass. It is certainly desirable to



'JUST BEFORE DAYBREAK IS A DEADLY TIME FOR BASS'

fish during spring tides ; and no one can dispute the statement that skate's liver is a first-rate bait in many places. But I *was* tempted to ask how many times in a century I was likely to obtain all these conditions? Certainly they were not forthcoming during the six weeks or so that I spent at the little fishing town. To show how uncertain is fishing, two years after I had received this excellent advice, bass suddenly reappeared in great numbers, and afforded some of the best sport ever known at that part of the coast.

This leads me to a not unimportant portion of my subject, namely, the migration of sea fish. All freshwater anglers know that the larger the river or lake, the more difficult it is to find the fish. In the sea, which is infinitely greater, we meet with the additional difficulty of having to learn the seasons at which the fish are likely to be present at any particular spot. Some years, as may be gathered from the little anecdote I have just related, they do not visit their usual haunts at all ; and the tiro who has journeyed many miles to some noted spot, only to find the bass or other fish a source of local wonderment owing to their absence, may very likely declare that sea fishing is a fraud, depart after a few wasted days, intensely disgusted and with a very false impression of the sport. I may have more to add on this subject later on.

Assuming that the angler has a reasonable or average amount of skill, and enlists the assistance of a man who thoroughly knows the fishing grounds of the locality, *and fishes during the right tides*, there are fewer blank days, or even bad days, on the sea than in fresh water. Much, of course, depends on the variety of fish sought after ; but, so far as the common species which fall to the lot of the paternosterer are concerned, the result of a day's fishing is, more often than not, satisfactory. That is my experience ; but then I take pains to fish at the right times and in the right places, and I am in hopes that the remarks in this chapter may prevent many people from falling into the errors which were my own when I began to sea-fish—errors which usually lead to very indifferent sport.

There is one difficulty to be overcome at every new place we visit, and that is, the dislike of professional fishermen to give information. Certain marks, and fishing grounds, and facts, and baits are common knowledge among them all; but the older and more experienced men often have special and very valuable knowledge, more particularly as to fishing grounds, and this they very wisely like to keep to themselves. One year I did a good deal of bass fishing from small luggers in a tideway on the Welsh coast. The little port from which we started was a watering-place; but the sport came on after the visitors had departed, and many local professional fishermen went after these bass for the market. There was not much fishing ground; the place was well known; and a little fleet of four or five boats would be sailing over it as long as the tide served, for the bass only seemed to feed there during the best of the flood. We all used much the same tackle and baits; but there were two boats which always brought home more fish than any of the others, and one of them most of all. I would have given a very great deal to have discovered the secret of her crew's success, and I watched them very closely; but, so far as I could perceive, there was no appreciable difference at all between our methods, unless, indeed, their boat was handled rather better than the rest. Lead, line, tackle, speed of the boat, and place of fishing, all seemed exactly the same.

A taste for sea fishing often leads to a taste for yachting, or, at least, small-boat sailing. Whilst I must confess that a knowledge of nautical matters is not absolutely necessary for success in sea fishing, nevertheless it is desirable that anyone who places himself at the mercy of wind and wave should know how to handle a tiller, hoist or lower a sail, and take a turn to windward. Curious accidents sometimes happen. It is a very unpleasant thing, should the boatman be disabled by a sudden illness, or tumble overboard, or require to leave the helm to clear some little hitch in the running rigging, if his employer cannot take the tiller or otherwise render assistance. The more deeply a man goes in for acquiring a knowledge of

all the details connected with any particular sport, the more gratification he will obtain. Fishing does not begin and end with the mere hooking and playing of the fish.

At the outset the mere tiro cannot do better than place himself in the hands of some friend or professional fisherman who can be relied upon to provide him with the right tackle and the right baits, take him to the right place, and, in fact, treat him as if he were a mere rod-holding, winch-winding machine. But the shorter this machine period, the better. There is little satisfaction, and less credit, in fishing with other men's brains, and the sooner the beginner masters a knowledge of baits, tackle, suitable conditions of weather and water, the elements of seamanship and small-boat sailing, and the thousand and one minutiæ of sea fishing generally, the greater will be his enjoyment of this very delightful sport.

To find a really satisfactory boatman is frequently no easy matter. Many of the fishermen are mere *hands*, and only work well when there is a *head* to direct them. Others have a good knowledge of rough hand-line fishing, but do not sympathise with nor comprehend the sportsman's finer methods. Not a few are jealous of strangers coming to the place, even though they pay their men well. On many parts of the coast bass and pollack, two of the most sport-giving fish, are not much sought after by the professional fishermen, which means that the amateur is forced to rely upon his own general knowledge of the habits of the fish in searching for them. But, happily, there now begin to be not a few places frequented by amateur fishermen where the local personages have become reconciled to seeing a fishing rod project from their boats, and cease to declaim upon the folly of fishing with line so thin that, in their opinion, a one-pound whiting might break it. Let us hope that, in time, the British Sea Anglers' Society will have the names of one or more really good boatmen at all stations of importance (from the amateur sea fisherman's point of view) on the British coasts.

At several of the Yorkshire watering-places it is the

exception to see any amateur with a hand line; and, as I stated earlier in the chapter, rods have been used for many years for fishing from rocky headlands and suchlike places on the coast of Devonshire and Cornwall. In fact, from the shore the rod may be an absolute necessity. In the Mediterranean the Italians and others have fished for years with rods, as also have the Irish and Scotch for pollack and coal fish; but not with such weapons as the modern sea angler would care to handle.

What are the general advantages of a rod in sea fishing? I will answer the question here, at the outset, because it will be one of the first asked by the sea fisherman of the old school. As a matter of fact, the rod plays much the same part in the sea as it does in fresh water. In the first place, it enables a reel to be used. Not only is it more pleasant to wind up a long wet line on a reel than to handle it, but the chance of bringing into the boat any large fish which is hooked is very much greater when there is an abundance of spare line on the reel with which he can be played. If we use a hand line it must be of considerable substance or it will cut our hands; but the thicker the line, the greater the resistance of the water on the line, and the heavier the leads which must be used. Therefore hand-lining necessitates not only stouter line, but a heavier lead than is required if rod and reel are used. A fine line and comparatively light lead are, then, two important advantages arising out of the use of rod and reel. My favourite line is much the same as the anglers of the Trent use for pike—undressed twisted silk. An old fisherman, to whom I promised a hundred yards if he could break it, cut his hand deeply in the attempt and failed; and I take it that when new, assuming there is enough of it, the largest cod that is to be found round our coasts could be killed on it without great difficulty.

Secondly, the spring of the rod and yielding of the line prevent many a fish from breaking the tackle at the first or subsequent rushes. Imagine a large, vigorous, fresh-run salmon on

a hand line! Snap would go the stoutest gut in an instant. Even if the line was not broken, the hook would be torn from the jaws of the fish. What prevents a disaster is the spring of the rod and the free yielding of the line which rolls off the screeching reel. In the sea are fish not a whit less fierce in their first rush than salmon. A big bass will sometimes make a glorious run when first hooked, and so will a large grey mullet; while the downward bolt for its home among the rocks and weeds of the pollack, is a thing which would startle even a salmon fisherman. If we are using a hand line we have to pay it out in clumsy fashion between thumb and first finger. We get our hands cut, and as likely as not the loose coils of line catch in something and the fish breaks away. If the tackle is so very stout that it will hold the fish, then the hook may tear out; and if the water is at all clear and the day not very rough, we catch very few fish because of that same stoutness and visibility of line.

Thirdly, on a rough day the hand-liner's lead responds to every movement of the boat, and dances a wild jig just above the bottom of the sea. With the rod, on the other hand, the lead can, as a rule, be kept still on the bottom. Though the butt end of the rod shifts with every movement of the boat and the angler, the rod point can be maintained in one position without much difficulty. When angling for some species of fish the advantages of being able to keep lead and bait steady are great.

The drawback to the method I am advocating for certain kinds of sea fishing, is that the rod acts as a lever and vastly increases on our wrists and arms the actual weight which is depending from its point. The ordinary freshwater rod varies in length from about ten to eighteen feet, and in the early days of modern rod fishing in the sea, freshwater anglers used an eleven- or twelve-feet rod. Great indeed was the labour of reeling up a tackle weighted with a lead of half a pound or more. But the evolution in sea-fishing rods has gone on steadily. The rod has been shortened inch by inch until now

for boat fishing a handy little instrument of six or seven feet is made, doing away with all the disadvantages of the ordinary pike or other rod which was formerly used. There is an illustration and detailed description of it in Chapter VII. It has special fittings at the top and on the ring next the butt, which reduce friction to a minimum. Possibly some day ball bearings may be introduced into the little block used at the end of sea-fishing rods. They have already found their way into the bearings of reels. With these short but trustworthy rods a weight of a pound can be reeled up without any difficulty, and fishing can be carried on, if needs be, with sinkers of two pounds or even more. These are great weights for use on a rod, and rarely needed, even in deep water, if the line is as fine as the one I have described. With sinkers of eight ounces or thereabout I prefer to use an eleven-foot rod. For fly fishing from a boat nothing more than the ordinary grilse rod is required ; but on shore, especially in steep rocky places, it often happens that the longer the rod the better, within reasonable limits.

Generally speaking, a rod and reel cannot and ought not to be used for fish of any size from a yacht or any good-sized sailing vessel when under weigh ; for then fish cannot be played, and the dead weight of reeling them in while the vessel is going along four, five, or six knots an hour is a greater strain than can ever be safely or comfortably placed upon any rod or winch of a size which a man could handle. I have no doubt that in the future both these useful items of tackle will be varied to suit this special purpose. At the same time be it understood that even from large steamers a rod may have its advantages, as will be found exemplified in the chapter on the Ocean-Fishing Rod. A modified form of the gear there described might certainly be used on yachts and large fishing boats for saithe, bass, &c.

Improvements in gear introduced by amateurs are even making headway among the professional fishermen, who in some few places are beginning to recognise the advantages of silkworm gut over their hempen snooding. At Tenby and Ply-

mouth, for instance, nearly all the men use at least half a fathom of gut next the hook on their mackerel lines, and it is a common thing to see gut hook links on the hand lines used by whiting and pout fishermen on the south coast of England.

Some twenty years ago Mr. Cholmondeley Pennell and the late Frank Buckland were fishing off Plymouth. Mr. Pennell, as might be expected, was using a pike rod and a gut paternoster. With this tackle he not only had better sport than Frank Buckland and the boatman, who were using hand lines, but exceeded the combined takes of his companion and some persons who were in a boat not far distant. On my first attempt at sea fishing in Scotch waters a very similar incident occurred. The place was Loch Inchard. A friend and I strolled down from Rhiconich Hotel, carrying pike rods. Arriving at the water's edge we met our gillie, who looked at us with astonishment and asked what the rods were for.

'To fish with,' I ventured to remark.

'Ye'll no catch fish with rods in the sea loch,' said the gillie most positively; 'no man effer has and no man effer will. It's only the laddies who catch the cuddies from the rocks there with small mussels that use the rods. Ye'll catch all the fish ye need with these hand lines,' pointing to some rough gear lying at the bottom of the boat.

My friend was so impressed that he went to the trouble of taking his rod back to the hotel. I stuck to mine, but I saw that I had fallen in our man's estimation, the worthy fellow eyeing me with a look which plainly said, 'A wilful man maun gae his ain gait.' A few minutes later we were rowing down the long narrow inlet of the sea, which must have been beautiful indeed before some great glacier slowly swept over it and rounded all the mountain tops.

The anchor was cast a mile or so away from the hotel, on the whiting ground. I used my pike rod and a paternoster made out of single salmon gut; in fact, fished much as I should for perch, but with slightly stronger tackle. There were great quantities of fish in the loch, and in a couple of hours a number

of large whiting, grey gurnets, codling, and some remarkably fine plaice had found their way into the boat. The three hand lines were worked by my friend and the gillie ; each hand line had two hooks ; yet those six hooks in all caught fewer fish than were taken on the two-hook paternoster, and before we returned to the shore the gillie frankly admitted that the rod was 'no so bad.'

But the mere fact of having a rod of some kind or other does not necessarily conduce to a large basket of fish. I was fishing in a sandy bay in the Bristol Channel one summer day, using a light bamboo rod and very light paternoster tackle, the lower hook being close to the ground, for the fish most numerous were plaice and sand dabs. A hundred yards from me was another boat in which was an amateur fisherman, his son and a boatman. The father was using a very whippy, salmon, *fly* rod which was considerably bent by a sinker weighing about a quarter of a pound. The son and the boatman had hand lines bearing leads which must have weighed at least a pound and a half each, and below their sinkers were very long snoodings, a combination which effectually prevented the bites being felt. If a heavy weight is placed on a line used with a fly rod, the fish cannot be struck immediately they bite, for when the angler raises his hand the rod bends towards the lead, and by the time the rebound comes, the fish, which have felt the slight jar preliminary, may have quickly rejected the bait.

Never did fish bite faster than on that August day. In a very short time I had six dozen, varying from half a pound to nearly two pounds. My neighbours were catching next to nothing, and shifted many times without bettering themselves. Seeing they were faring badly, I called them to bring their boat as close alongside of mine as they pleased. This they did, but were even then unsuccessful, and I do not think they caught altogether half a dozen fish. It was not a matter of position that day at all ; no doubt I was in a good spot, but fish were plentiful for some distance around me. The failure

of these people was entirely owing to their using both rod and hand lines unsuited for the purpose.

Yet another instance of the advantage of the rod over more primitive methods: On the east coast of England there comes a great run of codling close in shore during the autumn months. One September I fished a good deal from the beach at Lowestoft, using ordinary Nottingham tackle, and a paternoster with two hooks. Along the shore was a perfect regiment of men who were throwing out the lines peculiar to that part of the world—there is a drawing of them in Chapter VI. Suffice it here to say, that each of their lines had thirteen hooks on it, and that, with their heavy leads and heaving poles, they could get their line further seaward than was possible with my lighter tackle. Yet, as a rule, I could catch two or three times as many fish on my two hooks as any of these men did on their thirteen hooks. There is mention in my diary of an evening when the paternoster killed twenty-four fish while the men on each side of me with the twenty-six hooks between them landed only three. I can claim no particular credit or skill for this. The explanation is simple. The throw-out lines were heavily leaded, and it was only the most vigorous bites which were felt. On my tackle I could detect the slightest bite, strike at once, and so catch fish while the hand-liners were having their hooks robbed of bait.

On the whole, the sea seems to afford even greater possibilities of sport than does fresh water, more particularly now that so many rivers are polluted and over-fished. Artificial fish culture has been the salvation of certain trout streams and salmon rivers; but in the sea this generation at least has a natural store of splendid fish, many of them as sport-giving as any found in river or lake. All men, rich and poor, are free to catch what they can, and those who choose to travel northwards will find themselves amid as grand scenery as that commonly associated with the watersheds of the finest salmon or trout streams. A popular fallacy exists in connection with the supposed ubiquity of fish in the sea. Not a few people consider

it the duty of Nature to provide fish for them wherever they choose to drop in a baited line. Acting on this principle, and failing to hook anything, they decry the sport. Now, sea fish are not scattered about in this indiscriminate way. Many of them are migratory in their habits and swim in shoals. Occasionally they leave certain districts for a time, perhaps four or five years, and then return again. Certain localities they always seem to favour; others they apparently dislike, and they seek comparatively shallow water rather than the deeps—the fishing fleet goes to the Dogger Bank, not the Dogger Hole. Where there is no food there will be no fish; and where torpedo boats practise, and big guns are fired, and large steamers are constantly plying, it is hardly to be expected that shy creatures will abound. But go to the right place at the right time, and the sport may be simply magnificent.

Never on salmon river or trout stream have I enjoyed more splendid fly fishing than has fallen to my lot from Filey Brigg. Sometimes so eager were the fish, that if one missed the fly another was hooked immediately afterwards. It was simply a fight against time and a rising tide.

The enthusiastic sea fisher may claim for the sea the first place in respect of the variety of sport afforded, but he must admit that on its literary side it is a very bad second in its rivalry with river and lake. From the time of Izaak Walton, freshwater fishing has been the subject of a series of most charming works, some of them in parts almost prose poems; and a fascination, I may say glamour, has been cast over trout, salmon and some other fish, which will remain until English angling literature is forgotten. Sea fish and sea fishing, notwithstanding their national importance, have a very small niche indeed in our literature, probably because until the middle of this century the coarseness of the tackle commonly used deterred most anglers, so many of whom are men of refined literary tastes, from seeking their favourite sport in salt water. But the tackle was not the only drawback, for certain unpleasant qualms, which Father Neptune only spares us in his kinder

moments, no doubt prevent many from sea fishing from boats. For this reason I have laid emphasis, both here and later, on the fact that there are in Scotland and Ireland, and more rarely in England, wholly or partially land-locked places where fish are at times abundant and the disturbing undulations of the water almost unknown. There the good fisherman but bad sailor may angle in peace, comfort, and contentment.

On the whole I incline to the opinion that sea fishing as a sport has a great future before it. Certainly it has made great strides in popularity of late years.

## CHAPTER II

### ROUND THE BRITISH AND IRISH COASTS

THERE are two classes of sea fishing, the one incidental to a yachting cruise or the annual migration to the sea coast; the other, the more serious undertaking of the keen sportsman who, regardless of distance, simply seeks the place where he can reap the greatest profit from his skill and endeavours. Those who prosecute the sea fishing of the first description necessarily have to put up with whatever sport chances to be forthcoming, so the remarks in this chapter may be considered as mainly intended for those whose chief object in visiting the coast is sport.

It is a melancholy thing for me to say, because I happen to live in a southern county, but the further one travels from London the better the fishing seems to become. Indeed I once saw a mathematical formula purporting to give the exact increase in the weight of fish taken in a day, caused by every additional mile placed between the sea fisher and the metropolis. Without being quite so precise, I certainly must say that to get the best fishing it is necessary for those living in the south-east of England to travel somewhat far afield.

In sea fishing, locality and season are of great importance. A reader of my little book, 'Angling in Salt Water,' wrote a reproachful letter informing me that he had trailed over many miles of mud banks with all the baits and tackle recommended for pollack, but had not caught a single fish. I ventured to suggest to him that his researches in my work had not been very deep, or he might have learnt that the pollack was

not a mud fish. That was, of course, an extreme instance of carelessness or stupidity; but the popular idea certainly is that fish are fairly distributed all over the sea.

The difficulty which meets me at the outset, in attempting to give any advice as to locality, is that sea fish sometimes suddenly desert places on the coast, which have long enjoyed a great reputation for affording sport to the sea fisherman. A rapid decrease in the number of fish may be owing to inshore trawling, or the plying of steamboats, or torpedo or gunnery practice; but where any very sudden migration takes place I think it must be due to the exhaustion of the food supply. The fish perhaps have increased to such an extent that they find the food insufficient in this otherwise favourite locality, so, like wise creatures, they suddenly decide to migrate to other parts of the coast. For a few years the food supply is thus given an opportunity of increasing, and then back come the fish.

Let us begin our survey on the shores of Scotland. In the north and round the islands of Shetland and Orkney the sea fishing from August onwards is remarkably fine. Pollack and coalfish, called locally lythe and saithe, are very numerous, and the cod fishing in October and during the winter is sometimes splendid. A friend who had been making a tour of Great Britain told me that he saw a man come from fishing an inlet of the sea in Shetland whose boat was simply paved with cod running from 5 lbs. upwards. These had been caught with rod, reel, running line, and gut paternoster.

On the north-west coast of Scotland are numerous inlets or fjords, called up there sea lochs, in most of which the fishing is first-rate. The great charm these waters have for many people is that, being enclosed by high mountains, they are shut off from all the winds that blow; nor are there any upheavings of their placid bosoms by reason of the Atlantic swell outside. Squalls come down from these mountains in winter-time, of course, but a sudden squall makes no movement of the water which would trouble a bad sailor, and there is always the land

near at hand for those who wish to get ashore. Land-locked on all sides, these lochs have the appearance, save for the sea-weed round their margins, of freshwater lakes. In the introductory chapter I referred to one of them, which I fished some years ago—Loch Inchard. There is, or was, an Englishman who regularly visited this loch every summer and autumn for sea fishing, only occasionally taking a rod on the salmon river when it was in good ply.

A difficulty which often crops up in remote places is to find boatmen who have that particular local knowledge useful to sportsmen. They understand your drift nets for herrings; but when it comes to whiffing or railing close round rocky points and other haunts of pollack, they are apt to be very much at sea, in every sense of the word. Nor do they appear to know the best ground for whiting or flat fish. The angler, therefore, has often to find out a good deal for himself, and, as I have already advised, will do well to carefully note the marks of any good fishing grounds he may discover.

The first thing to be thought of are the habits of the fish. Whiting like one kind of bottom; pollack another; and you must not go fishing for southern fish, such as bass, in northern waters. Bass, by the way, are not absolutely unknown in Scotland; but they are so rare as not to be worth fishing for.

Loch Inver, on that coast, is a very civilised spot from which a great deal of first-rate sea fishing is carried on, and the same may be said of Kylesku, Little Loch Broom, Rhiconich, and many more places in that part of the world. A pleasant way of spending the summer would be to take one of MacBrayne's steamers up the north-west coast, joining it at Oban, Greenock, or Glasgow (in order of merit), stop at any little place which presents itself, fish for a few days, take a steamer to the next likely spot, and so on. The scenery is simply magnificent, the sport is likely to be good, and there is always, in addition to the sea, the chance of some fly fishing in lochs and the smaller streams near the coast. In those bays and sea-lochs into which salmon and sea-trout rivers run, sea-trout, and more

rarely a grilse or two, may be occasionally caught in salt water by means of spinning baits, or flies trailed behind the boat. On the north coast of Scotland, in the kyles or sea-lochs of Durness and Tongue, whiffing or railing for sea-trout is regularly carried on with considerable success in April, May, and June, and a good deal of sea-trout fishing in salt water is to be obtained round the islands of Shetland and Orkney.

A very high authority has delivered his opinion that the east coasts of Great Britain and Ireland are more highly favoured by fish than the west coasts. But the east coast of Scotland does not offer such great attractions to the sportsman as the western shores, for the simple reason that it is more exposed, and during weeks at a time the angler may not be able to fish either from the rocks or put to sea in a boat. Haddocks, cod, and herrings are most abundant; but of what use is this abundance to the angler when there is a double line of surf breaking on the shore, or great billows foaming up against the base of the cliff and sending the white spray high overhead?

But the eastern coast of Scotland must be dealt with. Aberdeen is notable as being the first place where a club of any kind has been formed for the prosecution of sea fishing. It still exists, and is called, I believe, the Rock Anglers' Association. It consists mainly of working men, who, in the autumn, catch large numbers of cod and other fish from the rocks. In the little village of Findon, which lies between Stonehaven and Aberdeen, are prepared a small proportion of the 'Finnan haddies' which find place in every fishmonger's shop. Like Yarmouth bloaters and champagne, the name is considered everything by many people. The true Finnan haddie is smoked over a peat fire in the cottages of the fishermen at Findon, but most of the haddocks sold under this name are cured in other places by means of wood smoke.

Between Stonehaven and Aberdeen is a bold rocky coast with numerous inlets, bays, and deep gullies, and a good deal of fishing from the rocks for cod is carried on. Very long bamboo rods are used. The railway touches the coast at

Portlethen, Cove, and Muchalls. Much sea fishing is also done from the piers and breakwaters along this part of the coast, and there is good mackerel fishing at times.

The fishing stations on the Moray Firth, and further north are of considerable importance, and in particular may be mentioned Fraserburg, Banff, Buckie, Findhorn, Cromarty, Helmsdale, and Lybster. Some of the most beautiful fishing boats I have ever seen came from this part of the coast. I saw one, a smart lugger, coming into Lowestoft Harbour (for these Scotch fishermen are enterprising, and travel far afield); it was sailing two feet for every one covered by an English boat ahead of it. The Scotch craft gained so rapidly on the Englishman that the two entered the harbour together and there was a trifling collision.

The fisheries of the Firth of Forth are considerable. Herring fishing, by means of drift nets, is carried on; while large quantities of cod and haddocks are caught on long lines; and there is a good deal of beam trawling near Buckhaven and other places on the north side of the Firth. Places of some little importance, in which will be found fishermen, fishing boats, and baits, are Eyemouth, North Berwick, Dunbar and Newhaven.

So much, then, for the mainland of Scotland. Round the northern groups of islands—Orkney and Shetland—the sea fishing is often superb, except for bass, and there are numbers of those inlets of the sea which are the happy hunting grounds of bad sailors. Stornoway, in the Island of Lewis, is an important fishing station, from a commercial point of view; and during the northerly and westerly winds there is a good shelter here for the small-boatmen, who will get fair fishing for pollack round the rocky headlands in the neighbourhood. Broad Bay, to the north-west of Stornoway, deserves special mention as being probably the finest haddock ground of the United Kingdom. There are, of course, fish of other kinds, but haddocks seem to crowd out almost everything else. It is a shallow sandy bay, more or less free from tidal currents,

and can be fished easily and pleasantly with light tackle. I have seen the crofters selling haddocks eighteen a shilling, so plentiful were these fish. The cod and ling line-fishing commences in the autumn, and ends in the late spring. In the summer the herrings are attacked.

Among the many inlets of the sea on both sides of Harris and the islands to the south the fishing is fair to good. In proper season the men catch pollack, haddock, and flat fish; but from my own experience, and what I could get to hear about it, the general fishing is not quite so excellent as in the sea-lochs of the north-west coast, to which I have previously referred.

There are places on the Irish coast at which first-rate fishing can be had. From a commercial point of view, the east coast is most important; but for our particular purpose I should rather prefer the west coast, where fish of all kinds seem very abundant. That coast is, of course, greatly exposed to the Atlantic; but there are many sheltered places, as in the mouths of rivers, between the mainland and islands, and in inlets of the sea, which are favourable to the prosecution of sea angling. At times the mackerel fishing is superb, particularly on the south-west coast; but the visits of these fish are very uncertain. Young coalfish, which are called locally 'glissauns,' are caught in great numbers by means of bamboo poles and rough wool-bodied flies.

Among the places which have obtained a reputation for amateur sea fishing, Waterville in Kerry should be specially mentioned. Waterville Bay is sheltered from all except south-west winds; and there is some very fair freshwater fishing is the neighbourhood, which is a consideration, and will be appreciated by those who visit the place during a south-westerly gale. A few miles from it is the sheltered sound between Valentia Island and the mainland. This part of the coast is well worth a visit.

Notwithstanding the traffic, and a good deal of trawling, fish, including cod, ling, bream, haddock and conger, are plentiful

in Dublin Bay. Haddocks, at times, are very numerous, though they have a way of leaving the bay for years together, and amateur fishermen frequently secure large takes of sea-bream. There are a number of pleasant watering-places between Dublin and Wicklow, and from some of these, I apprehend, very fair sea fishing might be enjoyed. I was riding through Dublin in a public conveyance, when two men entered, who had with them a large basket of fish.

'Where did you get those bream?' I asked.

'Those what, sir?' said the man.

'Bream,' said I.

'Divil a bream,' was the reply; 'they're carrp.'

'I beg your pardon, they are bream; the carp is a fresh-water fish.'

'Arrah, no, they're carrp.'

'I assure you they are nothing of the kind,' I said.

'Maybe it's brame that the gintilman manes,' suggested the man's companion.

It was a ray of light striking Cimmerian darkness; the man's face brightened up, and he exclaimed:

'Some of us call them carrp, and some of us call them brame; but bream's a new word intoirley.'

Those, therefore, who go to Ireland will do well, to prevent mistakes, to forget their English accent if they wish to go out bream fishing. I found out afterwards that carp was a very common name for sea-bream in that locality.

Speaking generally, amateur sea fishing is not much pursued on the Irish coast, so that the information available is somewhat limited. It may perhaps be useful to give a list of the principal fishing-boat stations, where men and boats can be had; but it does not follow that just that fishing which the amateur seeks after is close at hand. Most of these stations, it will be noticed, are on the east coast. The list includes Dublin, Skerries, Howth, Arklow, Wexford, Dunmore, Dungarvan, Ring, Ballycottin Bay, Queenstown, and Kinsale, once celebrated for its weatherly hookers. Between Baltimore and

Kinsale are capital fishing grounds and plenty of fine natural harbours. In Bantry Bay is Glengarriff, which rejoices in three hotels, good sea fishing, and not a very long journey to the Lakes of Killarney. Kenmare Bay and Dingle have prolific fishing grounds. In Dingle Bay the very light canvas boats called 'curraghs' are much used. They are also found on the coast of Clare, and as far north as Galway Bay. On the other side of Dunmore Head is Smerwick Harbour, and Brandon and Tralee. Beyond the mouth of the Shannon and the exposed coast of Clare comes the fine coast of Galway, where the many inlets of the sea and the sounds between the numerous islands and the mainland should afford the sea angler good fishing grounds in almost any weather. The Galway hookers are noted sea-boats.

Mackerel fishing is periodically excellent on this part of the coast, and cod, whiting, and other hook fish are only waiting to be caught. Haddock, too, are very plentiful in winter, remaining till about the end of May; cod and ling disappearing a month earlier. In Blacksod Bay there is good shelter for the small-boat fisherman, and cod and ling are there in due season. Belmullet, at the northern end of the bay, was once a noted fishing station. Following the coast northward we come to Sligo and Bundoran, the latter in Donegal Bay. A good deal of herring fishing is carried on here, and where herrings come other fish follow. The more northern parts of the bay afford a good deal of fishing with both long lines and hand lines. Whiting are sometimes extraordinarily abundant in this bay.

Further north there is still less trawling and more line fishing, which is all in the amateur fisherman's favour. On this part of the coast coalfish, 'glassons' or 'glissauns,' are very plentiful. Both in Loch Swilly and Loch Foyle there is often very fair fishing. In former years Belfast Lough afforded grand sport, but friends who live in the neighbourhood tell me that since the increase of steam traffic the fish have become very much less numerous.

Other stations down this coast are Strangford, Carlingford, Ardglass, Greencastle, Rush, and Balbriggan.

Coming back again across the Irish Sea to the north-west coast of Wales, we pass the Isle of Man, which may be referred to here. The fishing round the island is good, and the place is much visited by amateur sea fishermen, particularly in the months of July, August, and September. There is some inshore pollack fishing in June when the season is early. Good sport may generally be had in October and November, providing the weather is favourable. Douglas is perhaps, on the whole, a better place to make one's headquarters than Ramsey. At Peel there is often very good fishing for bream in the early summer; and at Port Erin is a breakwater from which amateur sea fishing is carried on in fair weather. At Douglas there is a breakwater at the mouth of the harbour, which can be tried when the weather is too bad for boat work; and fish are sometimes taken from the Victoria Pier. There is also a little fishing from the breakwater at Port St. Mary, and last, but not least, the mackerel fishing is excellent.

The Manx names of fish and bait are somewhat puzzling to people who come to the island for the first time. Like the Irishmen of Dublin, they call bream *carp*; the pollack is *callig*; coalfish, *blockin* or *blocken*; herring, *scadder*; dog-fish, *gobbock*; wrasse, *bollen*; cuttle-fish, *sea-cat*. That invaluable little bait, the ragworm, is termed by the Manx fishermen *pellic*. There are plenty of big fish round the island, and very strong tackle is required for use in the deep water.

Let us now cross over to the north-west coast of England and work southward. In shallow, sandy Morecambe Bay flat fish afford some sport, and shrimps are very abundant; but, so far as I know, the seaside resorts in the neighbourhood of Liverpool do not offer first-rate fishing. Towards and on the coast of Wales we begin to get among the haunts of bass. I should look upon this coast as most useful for summer fishing —mackerel, bass, and flat fish, with whiting in places. Bass are plentiful in the Menai Straits. In the small shallow lagoons of the Crigyll River mullet are found; but they are most difficult to fish with a rod, the water being shallow and clear.

There is no shelter on the bank. Bass enter most of the tidal rivers and creeks of Anglesea in August and September, particularly in the estuary in Malldraeth Bay, where there are many mullet, these fish also frequenting the river Cefni. Large plaice are caught in the mouth of the river Ffraw. Boats can be obtained in Aberffraw Bay, which is also a good place for bass. Soft crab is considered the best local bait. Aberffraw is about three miles from Ty Croes station. From the same station Rhosneigr can be reached, where there is excellent sea fishing from boats. There is also some bass fishing at Towyn, in the mouth of the Dysynni River, and at Aberdovey.

There is a good deal of sea fishing done at Carnarvon and Beaumaris, and fair pollack fishing can be had round the headlands near Holyhead. I had a very good account given me of the fishing at the mouth of the Teify, particularly for bass. At Fishguard, where the French invaded us (in proof of which did I not see the sword of a Frenchman, taken by the grandfather of the good woman with whom I was stopping at a little fishing village on the Welsh coast?), the local men carry on a good deal of lobster and crab fishing, and the summer mackerel fishing is often first-rate. But I have no information on the strength of which I could advise any amateur fisherman to go to the place.

Rounding St. David's Head and coming into the Bristol Channel, we reach one of the finest mackerel grounds on the English coast between Milford and Bristol. I should say that the best station for the amateur fisherman is Tenby. Close to the harbour of this fishing town and watering-place the angling for sand dabs and plaice is excellent. The position of these fish seems to vary; sometimes they are off Waterwinch, and sometimes again a little distance off St. Katherine's. Another good fishing ground is on the east side of Caldy Island. In fact, there is no lack of flat fish anywhere between Caldy and Saundersfoot. The summer mackerel fishing is first-rate; the fish are not large, but are most delicate eating; and fast, weatherly, lugger-rigged sailing boats, and clever fishermen who know their business, can be engaged. In some years a few very

fine bass are caught from the rocks close to the harbour, usually in the twilight of early morning. In the maelstrom, or race, off Giltar Point, late in August or early in September, there is often excellent fishing for school bass which run from about two to five pounds. Unfortunately this can only be carried on conveniently from a sailing boat when the wind suits. The blue phantom is a favourite artificial bait at this place, doubtless because it imitates a very small run of mackerel which appear in early autumn, called locally 'joeys.'

For years together the bass desert Tenby, as they do other places, so that I would warn the intending bass fisherman to be prepared for a possible disappointment. But looking at the excellence of the angling for flat fish, mackerel and conger, Tenby, taken as a whole, is a good place for the sea fisherman.

If the bass are not in the bay it is evidently desirable not to waste time seeking after them. Even if all else fails, there is most exciting conger fishing to be had at night close along the coast towards Waterwinch, or near Giltar Point. The best congers, however, are taken over a ledge of rocks marked by a beacon about a mile from the town. This is also a capital place for bream.

About a hundred yards off the point of St. Katherine's is a group of rocks. Between these and the point a good deal of fishing is carried on, the position of the boat being changed according to the set of the tide. Very large grey mullet come swimming round these rocks and towards the harbour, but it is rare indeed that any of these are hooked. A few codling are caught at this spot, but, so far as I know, are not plentiful, nor are large cod nor whiting at all abundant. One of the amusements of the place is searching for crabs, congers, and lobsters at low water during the lowest spring tides among the rocks on St. Margaret's Island and along the shore towards Waterwinch ; there is also a good deal of prawning done.

The sport here would be infinitely better if trawling were prohibited in the shallow water of the little bays on either side of St. Katherine's. I once counted about two hundred

Brixham trawlers in the harbour, and in bad weather a great many of these fish in the shallow bays; but the local men are the greatest sinners in this respect.

Close to Tenby is Saundersfoot village and bay; a very charming little place, much pleasanter to stop at than the larger town, but having the disadvantage of not being so near the fishing grounds about Caldy Island. It has a small harbour which is dry at low water. Boats are much cheaper here than at Tenby. A friend writes to me that there are plenty of good bream, whiting, &c., off Saundersfoot, especially if the water is thick. I did not come across these fish myself. The season may have been unfavourable, or my men may not have known the best fishing grounds.

I doubt if there is any other fishing station of importance on the north side of the Bristol Channel; nor on the south side until we come to Ilfracombe, where there is indifferent fishing from the pier, except in winter, when a few large cod are usually caught. But there is very fair fishing from boats, whiting in particular being abundant. A few fish are taken at times from the rocks. The principal fishing grounds of the trawlers in this district lie between Lundy Island and Caermarthen Bay.

Off most of the picturesque villages of the northern shores of Cornwall and Devonshire is very fair fishing. The likeliest period for the amateur fisherman to visit the Cornish coast is between midsummer and Michaelmas. The best of the whiting fishing may come a little later, if not interfered with, as it probably will be, by wild wintry weather. St. Ives (or Hayle) is an important station for boats. Large cod, gurnet, whiting, turbot, &c., are in the bay during the autumn, and boat hire is moderate. Coming down to Land's End, we reach a noted place for large pollack and bass. A great deal of amateur fishing is practised both here—from Sennen and St. Just—and off the Lizard. Not only is the whiffing good for the more sport-giving fish, but all the more common bottom-feeding fish, such as bream, conger, hake, gurnet, and flat fish, are very plentiful. It was near here, off the Seven Stones, that Lord

St. Levan caught a record pollack, 3 ft. long and weighing 24½ lbs. The fish was presented to Mr. T. Cornish, town clerk of Penzance, who fortunately had it set up. From Marazion and Porthleven in this district there is much fishing.

At Falmouth sport is reputed somewhat uncertain, and boat hire does not usually err on the side of moderation. Both here and all along the Cornwall coast, from almost the end of July to the end of December, pilchards can be obtained for bait. Round the rocky headlands, outside the harbour, there is very fair pollack fishing, and, occasionally, whiting fishing in Carrick Roads and in the deep water about two miles out. At the back of the Castle there is often excellent chad fishing in August. For fishing in the Falmouth district some people prefer to stop at the smaller and quieter St. Mawes, on the opposite side of the harbour. Bass in season are commonly plentiful near the Manacle Rocks, some ten miles distant.

A place I have not visited, but which is very highly spoken of by my friends of the British Sea Anglers' Society, is Mevagissey. A great deal of pilchard fishing is to be had here. Over the lobster grounds there is good fishing for pollack with drift lines, railing or whiffing being impossible on account of the lines of lobster pots. A great variety of fish is caught here, and on the whole it seems as good a place as the angler could wish to visit.

Fowey, close to Mevagissey, is another noted sea-fishing station, and has the advantage of an excellent natural harbour. Fishing is good here for mackerel, whiting, pollack, gurnard, bream, and other fish. Hard by is Polperro, a charming little place with a small harbour. The nearest railway station is Liskeard, eleven miles. Both here and in many other Cornish villages, boats and men can be hired for moderate sums. The men used to be satisfied with 25*s.* a week, but at places frequented by many amateur sea fishermen the ideas of professional fishermen on these matters have become enlarged. There is capital fishing at Looe, where is a good natural harbour. The place has a reputation for pollack, for which many people visit it.

Next comes Plymouth, where a great deal of amateur sea fishing is carried on by local people. The rival tackle-makers, Messrs. Hearder of Plymouth and Messrs. Brooks of Stonehouse, both issue very admirable little guides to the harbour and neighbouring coasts, with small charts and other directions for finding the fishing grounds. The best pollack fishing near Plymouth is off Penlee Point, which is also a noted place for fly fishing for bass. It fishes best on the ebb tide. July, August, and September are the months for visiting this part of the coast, except in respect of the spring fishing for small pollack.

At Plymouth is the laboratory of the Marine Biological Association, from which greater things were anticipated than have at present resulted. Although a large amount of most interesting biological work has been accomplished, it cannot be said that the sea fisheries of England have appreciably benefited by the researches of the gentlemen who have been working in the laboratory. Possibly the practical side of the subject has not received quite so much attention as it deserves.

Plymouth is a trawling station of some importance, the trawling grounds lying to the west of and inside the Eddystone. When the weather will allow it, this famous rock should certainly be visited, for in its neighbourhood some splendid fishing can be obtained. Enormous pollack have been killed here, and the whiting grounds are famous. The best way to work the pollack fishing is to sail in a yacht or other seaworthy vessel from Plymouth, anchor, and rail round the rock in a small boat when the weather will permit.

One great advantage of Plymouth is the shelter obtained in the harbour within the breakwater, but there is a corresponding disadvantage in the large amount of traffic, which does not improve sport in shallow waters. It has been said that the breakwater has caused mud to collect in the Sound, and that this has had a bad effect on the fishing.

There are many places at Plymouth from which fishing from the shore can be carried on, and having regard to the fishing in

the harbour, whiting, cod, gurnard, hake, &c. boat work outside, and the shore fishing, there are few places which offer so great a variety of sport to the sea angler. At the same time, it is often asserted that the sport is not so good as it used to be. Not long since a letter appeared in one of the weekly papers from a gentleman who had fished for a month at Plymouth for bass and had only caught one fish; he complained of the steamers and the big gun and torpedo practice. Certainly the bass fishing is not nearly so good as it used to be.

Some prawning and shrimping is done between Mount Batten and Bovisand, and among the rocks round Drake's Island. During the summer months a steamer plies between Plymouth and Looe. There being, as I have said, such excellent local guides published, I have not thought it necessary to deal with this fishing station in great detail.

The next place of any importance after Plymouth is Salcombe, which offers very good pollack fishing. Most of the pollacking is carried on round Bolt Head and Prawle Point. Sand eels for bait are obtainable. The climate is very mild in winter, the average temperature for many years having been little less than that of Montpellier. Oranges, lemons and citrons grow in the open air. The bass fishing was once very good, but of late years has fallen off, and in respect thereof certain amateur netsmen have been blamed. It is still, however, a noted place for pollack, and let us hope the bass will return to it when they feel so disposed. There is a beautiful little natural harbour, and very good accommodation for visitors and sea fishermen.

Between Salcombe and Dartmouth is the little village of Torcross. Sand eels can be bought from the fishermen. There is an hotel and every accommodation, and hard by are Torcross Ley and Slapton Ley, the pike and rudd fishing of which is noted. Boats with one or two men cost 5*s.* and 7*s.* a day. The bass and pollack fishing is off the Start, about three miles distant. Flat fish are caught half a mile from the beach. The whiting grounds, where sport is often excellent, lie about seven

miles out. The inhabitants of the Torcross, Slapton, Busands, and Hallsands villages, on the bay, mostly get their living by fishing.

A few miles onward is Dartmouth, a town on the west side of the estuary of the Dart. The extensive harbour is deep and frequently contains large numbers of sea fish, including mackerel. There is fishing for pollack outside the harbour round headlands and rocks well known to the local men ; and occasionally bass are taken round the Mewstone and eastern Blackstone. There are extensive whiting grounds off Dartmouth.

Brixham, on the south side of Tor Bay, is of more importance to the professional fisherman than to the amateur, being one of the oldest ports of the deep-sea trawlers. From Brixham across Tor Bay to Torquay there is a good deal of excellent fishing for mackerel, flat fish, pollack, and, in good seasons, bass. Whiting are sometimes very abundant in the bay, but are more often found further out. Bass in immense quantities frequent the rocks west of Berry Head. There is excellent bream fishing off this part of the coast.

At Torquay there is a little fishing to be had from the pierhead, but it is bad during an east wind. A few pollack can be caught from any projecting rocky point, and particularly from the reefs of rocks below Daddy Hole Plain. Pollacking from boats is practised round the Shag Rock and the Thatcher, and occasionally a few bass are caught. Lying between Brixham and Torquay is Paignton, a pleasant little watering-place.

Next comes Teignmouth, on the harbour bar of which bass are sometimes very plentiful during the summer months. The principal sport with these fish is obtained inside the bar of the harbour. A bridge here, from which fishing is occasionally obtained, crosses the river to the pretty village of Shaldon. Sand smelts and flat fish are fairly abundant, as also are mackerel and pollack. There is usually no difficulty in obtaining mussels, sand eels, and other bait. The boat hire is usually moderate, and many of the boatmen are clever at bass fishing.

Passing Dawlish we come to Exmouth, another sea-fishing

station on a large river estuary. In the harbour flat fish are plentiful, and, at times, bass. Outside, off Strait Point and other headlands, there is very fair fishing for pollack. The mackerel fishing is good.

A few miles onward is Budleigh Salterton, a pretty little village where there is fair sea fishing ; whiting pout are plentiful close to the village. The mackerel fishing is good, and occasionally there is fair sport with bass near the mouth of the Otter River, up which shoals of mullet sometimes are found.

Sidmouth may be passed by. Beer is a village of fishermen ; there is some pollacking round Beer Head, and the usual sea fishing found on this part of the coast a few miles out. At Seaton, not far from Beer, is very fair sea fishing, and a little trout and salmon fishing in the river Axe. Seaton used to be a good place for bass, but in common with all parts of our coast these fish are far scarcer than formerly.

I rather linger over the west country. The scenery is beautiful ; the climate, if somewhat relaxing, is pleasant ; the manners of the people are charming ; and the sea fishing is generally excellent.

As we travel eastward along the south coast the sport certainly does not improve. Off Lyme Regis there is much the same sea fishing as at Seaton. At Bridport is a harbour where a little bass fishing can be done from the pierhead. There is some pollacking to be had, and flat fish, for the bottom is sandy. Further out is very fair whiting fishing. It is worth knowing that whiting pout on this part of the coast are called *blinns* or *blains*.

The watering-place of Weymouth possesses an excellent harbour, and the bay is extended by the magnificent Portland breakwater, from which a good deal of fishing is done. Congers and whiting pout are the principal fish taken from the breakwater, and there is always a chance of a bass from the pierhead, at the mouth of the harbour. Large mullet and bass are caught from the bridge over the Fleet, the tidal backwater which connects Abbotsbury and Portland Bay. In

the harbour itself there are plenty of smelts and small flat fish; and a few bass, small pollack and grey mullet are caught at times from the little weir. The shallow lagoons at the back of the weir are unmercifully netted.

Some miles out the usual sea fish are caught. Mackerel fishing begins in May. The best of the line fishing is during the summer months and early autumn; boats sometimes catch twelve or eighteen dozen fish. Pollack are medium-sized and plentiful between Ratcliffe Head and Meup Rock, east of Lulworth. This place has often been strongly recommended; but, so far as my experience goes, it is uncertain, and, as I have said, if anybody wants really good fishing he should go further west.

To the eastward of Weymouth, between Swanage and St. Albans Head, is very fair pollack fishing. Poole Harbour is of no particular account except for eels and smelts, and, it need hardly be said, flat fish; but occasionally there are plenty of whiting in the deep water between Branksea Island and the harbour mouth.

Bournemouth was once a noted place for bad fishing; but since the population of the town has increased, the sewage appears to have attracted the fish, and very large takes are now being made every autumn not far from the pierhead, where the drains discharge themselves into the sea. Besides the fishing over the sewer, there are a good many wrasse, pouts, dabs, and other fish to be taken about a mile or a mile and a half from the pierhead. Owing to the steam traffic there is hardly any fishing from the pier; but things are a little better at Boscombe Pier, one and a half mile distant. Bass, pollack, and mackerel are at times fairly plentiful off Christchurch at the common mouth of the Stour and the Avon.

With regard to the Solent and Southampton Water little need be said. Huge steamers, torpedo practice, men-of-war, gunnery practice, and all the other incidents of our present high state of civilisation have driven away most of the fish, sand dabs and plaice (good takes of which are sometimes made

in winter close to the Brambles shoal) perhaps excepted. There is also whiting fishing on the north edge of the Brambles, and on the Peel and Middle banks. In the early autumn a good many whiting and not a few flat fish are caught off Cowes, but the tidal currents are so strong that fishing can only be carried on for about two and a half hours between the tides. Bass and mullet are sometimes seen, but rarely caught in the Medina. The Solent is mercilessly trawled.

About Portsmouth are traditions of bass, though very few are caught; but to the eastward, where the sewage of this important naval town empties itself into the sea at Langstone Harbour, there are plenty of flat fish. There is a little indifferent mackerel fishing in the Solent. Occasionally some bass are taken off Spithead.

In Chichester Harbour are found bass, mullet and smelts, and round Selsea Bill is some fair fishing for pollack and bass from boats—the sea is often lively here. Near the Bill is a little accommodation for fishermen; the place is eight miles from the railway station.

Bognor is hardly worth considering; but at Littlehampton, where the river Arun runs into the sea, there is fishing for mullet and bass. Occasionally some really good sport is obtained here. Wrasse, which are locally called rock tench, are very plentiful. The best of the mullet fishing is from the pier.

The sea fishing at Worthing is not notable, but Shoreham Harbour, which has of late years been thoroughly explored by Mr. J. C. Wilcocks, the author of the 'Sea Fisherman,' has yielded that gentleman a fair number of bass, though it is a place where a good many blank days must be expected. A few miles out some very large plaice and whiting are caught. Sand eels, which on the Sussex coast are called 'wriggles,' are to be obtained from the fishermen at Brighton, who catch them in whitebait nets. There are plenty of lug and rag worms to be obtained in the harbour.

I have a sentimental regard for Brighton, as being the place

where I caught my first sea fish something more than a quarter of a century ago. I remember how proud I was on being told by the fishermen that I had caught the first silver whiting of the season, but I further recollect that our bag mainly consisted of dogfish.

At most of these South-coast watering-places the local fishermen cater for the cockney, who knows nothing whatever of sea fishing, and is well satisfied to be taken out half a mile or so to catch a couple of dozen whiting pout and small dogfish. This used to be such a general rule that I had begun to regard Brighton and other places on that coast as most undesirable fishing resorts. But during the last few years the fishing grounds have been more thoroughly ascertained, and friends of my own have had some really fine fishing there in the autumn and early winter months for whiting, large plaice, congers, cod and bream; but these fish are not to be taken close to the beach. Now and again, after rough weather, when the water is thick, large bass are caught from the groynes and piers; the east side of the chain pier is the best. The general fishing from the piers is of no great account.

Among the fish which are caught off Brighton are bream, whiting pout, silver whiting, plaice, wrasse, conger, gurnards, and mackerel. Occasionally sharks are found. During September 1891 five were brought in varying from five to seven feet in length. In 1893 a large shoal of common dolphins of considerable size passed within sight of the town. Now and again I hear of bass being taken from the breakwaters, particularly the one at Rottingdean. Among the rocks at Rottingdean is a little prawning and shrimping, and occasionally a lobster is caught.

Of Eastbourne little need be said except with regard to bass, which are sometimes abundant off Beachy Head in September; fishing from the pier is bad. At Bexhill there is some very fair cod and whiting fishing during the autumn and early winter.

At Hastings the fishing is certainly indifferent, except by going some distance seaward; but here, again, small whiting

pout may be caught from the pier. Thence, also, an occasional conger or bass may be landed. Near the stone groin at the easternmost end of the fishermen's settlement are some rocks sometimes frequented by bass.

In years gone by Dover Admiralty Pier used to afford first-rate sea fishing (codling, mullet, bass, whiting, &c.), but the steamer traffic has worked evil things for the sea angler here, as in other places; and though there are still fish to be caught, they are certainly not numerous. A very long rod is required for fishing from this pier, and the best sport is obtained by the favoured few who obtain orders to fish at the extreme end. In the autumn there is fair whiting fishing in the offing. There are various people in the town who sell baits. Ragworms, called locally lugs, are plentiful, and the enlarged ragworm which is found among rocks is also obtainable.

At Folkestone the fishing in the offing is very much the same as at Dover. There is some railing to be done over the rocky ledge near Cock Point, where, too, a few conger and pout are to be found. In Eastware Bay there is a sandy bottom on which flat fish may be caught, and between that bay and Shakespeare's Cliff is a rocky bottom over which the local men rail persistently, but do not, so far as I know, often meet with very great success.

Deal is the happy hunting ground of the London sea fisher. I have counted eighteen of them, all fishing with rods from the steamboat stage at the end of the pier. The fishing from the pier in summer would be doubtless better if there were not so many steamers touching at the landing-stage The fishing in the right season is distinctly good, more particularly for whiting; but the best sport is usually obtained during spring tides, and when the water is neither too thick from gales, nor too clear from absence of storms. A south-westerly gale, while it does not much affect the Deal coast, stirs up the Goodwin Sands and thickens the water to such an extent that fishing becomes almost impossible.

A few pollack are caught from the pier in July, sometimes

later ; but the best of the fishing from that point of vantage is certainly in October and the early part of November. Herrings come to the place in great numbers in early autumn ; they are followed by the sprats, and they in their turn are pursued by the cod, which devour them. Later on, when the cold weather begins, the fish seek deeper water. While whiting fishing from boats in the Downs, it is customary to lay out a drift trot for cod or codling. A feature of the pier fishing is a sort of bait depôt, at which one can buy lugworms, herrings, sprats, &c. The best bait to use from the pier for pollack are large ragworms. Codling, flat fish, and whiting prefer lugs, whiting also not being averse to pieces of herring. In addition to the codling and whiting, there are flat fish, conger, and whiting pout, and I have more than once heard of good-sized lobsters being caught on rod and line from the pier. But I must temper this charming picture with just a sprinkling of cold water: there are many blank days both from pier and boats at Deal, but they should be few indeed if the angler chooses his time well and places himself in the hands of an experienced professional fisherman. During the autumn and winter there is no difficulty in finding the fishing grounds, for there are usually a score or more of boats to be seen out.

The tide runs very strongly in the Downs, and off Deal the sea takes the form of a huge eddy. The tide flows northward towards Ramsgate, and ebbs southward towards Dover. When running fiercely, it is next to impossible to keep a lead on the bottom, and the tide has the peculiarity of continuing to flow towards Ramsgate for about three and a half hours after high water. During the period of spring tides fishing usually begins about ten or eleven o'clock, and if the tide is then running strongly, the first anchorage will be about a quarter of a mile from the shore. As the tide eases, the boat will be shifted further out, and the fishing can be continued until about four o'clock. Four or five hours is about the longest period for fishing during spring tides. If you ask a local man when he fishes he will tell you that he does so on 'the ease of the

flood and the draw of the ebb.' When the ebb draws too strongly men up anchor, make sail, and head for the beach. When the water is clear, the best fishing is at night. From the pier there is fishing all day during neap tides, but for not more than six hours at a stretch during spring tides, unless a very heavy lead is used. The autumn and winter tariff at the Deal hotels is very moderate. For a sailing-boat and man a fair charge is about 6*s.* a tide, or 8*s.* a day.

Ramsgate offers much the same fishing as Deal—that is to say, for whiting and codling inside the Goodwins during autumn and winter. A good many silver eels are caught in the harbour, and a very occasional bass. In the spring months there is some fair fishing for whiting pout, dabs, and codling.

In the Thames estuary professional sea fishing is carried on for shrimps, whiting, flat fish, and lampern up to St. Clement's Reach, but there is not much done above the Lower Hope at Gravesend. From most of the jetties where the water is brackish a few flat fish and eels can be caught. It would seem, indeed, that the good old times when fish abounded were about to return, for the professional fishermen—who are not a class ready to admit any improvement in the fisheries—one and all declare that there is a marked improvement in the quantity and size of the fish caught in the mouth of the Thames, and that not only are fish more numerous, but that they are found higher up the river than has been the case for many years. This welcome improvement is, of course, owing to the increased purity of the water brought about by the action of the London County Council. Mud, marl, and sandy flats are the general characteristics of the river; here and there, particularly near Southend and Leigh, flat fish are very abundant, and are much sought after by anglers.

Working up the east coast, we now come into the land of cod and codling. The estuary of the Blackwater sometimes swarms with them in the autumn, and between Walton-on-the-Naze and Cromer thousands are caught every year both from boats and from the shore. A small run of these fish makes its

appearance about September—mere infants, weighing from one to two pounds; but as time goes on these either grow or are succeeded by shoals of larger and older fish, and in November and later a fair number of very large cod are taken.

In a chapter devoted to the methods of fishing from the shore, I have described both the old-fashioned way of using 'throw-out' lines and the more artistic, and certainly more killing, method of casting out a paternoster, so I need not advert to these here; suffice it to say that the fishing is found within a few yards of the beach, where, I suppose, the cod come to feed on the shrimps, &c., which are stirred up by the action of the waves.

I have never heard that there was much fishing at Harwich; but towards Aldeburgh and Lowestoft not only large numbers of cod and codling but also a few large bass are caught every autumn. Lowestoft deserves a special mention. Both the new and the old harbours abound with large flounders, which may be taken, with live shrimps as bait, all through the summer months. Dozens of anglers, rod in hand, may be seen seated along the quay side of the new fish market, many of them fishing in midwater for the flat fish on the bottom! It is far more pleasant to obtain permission to sit in one of the fishing boats moored out in the harbour, choosing for preference some spot where the shrimpers have been sifting their catches through sieves held over the water, for the small discarded shrimps are a very attractive ground bait. There flounders, called locally 'butts,' will probably abound. Smelts are plentiful in the harbour, and there are legends of grey mullet in the tidal broad at the back of the town. Long ago, those shy fish used to be found in the fresh waters of Mutford, now Oulton, Broad. Smelts are very plentiful in the harbour.

There are important herring and mackerel fisheries off this part of the coast; but both fish are caught in nets, the professional fishermen asserting that the water is too thick for mackerel fishing with lines. In September and later there is first-rate codling fishing from the shore on the north side of the harbour.

There is a shell-fish shop in Lowestoft from which large estuary mussels can be obtained for bait, and where, sometimes, lugs are kept in stock for the especial benefit of amateur sea fishermen.

At Yarmouth there is little sea fishing until the autumn, when codling, cod, and conger are caught from the piers and the shore, much as at Lowestoft. Codling, indeed, push up the Yare right into Breydon Water, where, also, are flat fish and smelts. Very large cod are taken from the Yarmouth and Gorleston piers; occasionally fish of twenty pounds or more. I have heard it said that the cod visit Yarmouth in great quantities every alternate year. I give this statement for what it is worth.

At Cromer there is codling fishing in autumn, and quantities of flat fish are caught in small beam trawls, on stretches of sand known to the fishermen, lying between reefs of rocks. Crab and lobster fishing is carried on extensively, but amateur sea fishing is very much neglected.

I know of no good sea fishing in the neighbourhood of the Wash, or for some distance northward. Grimsby is, I need hardly say, a sea-fishing station of great importance, but not from our point of view; the trawlers which sail from it working the North Sea and the Iceland and Faröe fisheries. Close to Grimsby, at Cleethorpes, is a small marine laboratory.

Off the Yorkshire coast the fishing improves, and we meet with large quantities of coalfish, the saithe of Scotland. In their immature state they are known locally as billet, and sometimes afford excellent sport to the fly fisher. They are found round Flamborough Head, which may be fished from the watering-place of Bridlington Quay. But the fishing quarters which I should prefer most in that neighbourhood are at Filey.

In the summer months the chief fishing at this quiet little Yorkshire town is for gurnards and flat fish in the sandy bay. To the northward of the town the great reef of rocks, known as Filey Brigg, stretches out to a considerable distance into the German Ocean, and on the north side of it shoals of billet approach during spring tides. During fair weather they take

'VERY LARGE COD ARE TAKEN FROM GORLESTON PIER'

the fly greedily. This is a very uncertain place, however, and many a blank day must be expected from it. About September there is a run of good-sized codling, which are caught principally at what the local fishermen call the Backside o' Brigg—the back being the south side.

Since I was at Filey, I believe a pier has been built, from which flat fish and gurnard should afford very fair sport. It is difficult to get baits at Filey, especially for the codling, which like nothing so well as large mussels brought from Hull, but—just fancy it!—made in Germany. Off the end of the Brigg there are supposed to be certain large pollack. I never succeeded in catching any myself, nor have I seen anyone more successful, though doubtless an occasional capture is made. Certainly these fish are as scarce as billet are plentiful.

Scarborough, like Filey, is a first-rate place for sea fishing, particularly for cod, in the autumn. Some capital flat fish are caught from the piers and quays, and grey gurnard swarm into the bay in summer. Quantities of billet or coalfish are caught from the shore or pierheads, and there is fairly good mackerel fishing, the usual method being to anchor the boat and fish with drift lines. Codling fishing is somewhat uncertain here, as, indeed, it is in most places, but at times during the autumn is decidedly good, the fish coming close inshore. Lugs, or mussels 'made in Germany,' are certainly the best baits. A good many small coalfish are caught from the piers by drawing a white fly or a gurnard skin fly through the water. Sea fishing is at its best when the tourist season is over, which many amateur sea fishermen will doubtless consider a decided advantage. Those who visit the place should seek the advice of Mr. J. W. Blakey, the Editor of the 'Angler,' and the energetic honorary secretary and founder of the Scarborough branch of the British Sea Anglers' Society.

Northward of Scarborough are several picturesque fishing villages, at almost any one of which fair to good fishing may be expected.

At Whitby is a splendid harbour, always a great convenience,

as it obviates beach boats and allows really seaworthy craft to be used ; but the fishing in the harbour itself is not first-rate. A favourite ground for amateur whiting and haddock fishing lies about two miles from the shore. The marks are well known to the local people. Cod, whiting, coalfish, gurnard, &c., are plentiful enough in their season.

Northward of Whitby the herring fishery, with which we have nothing to do, is important. Near Staithes, a picturesque fishing village, quantities of cod, coalfish and haddock are caught on lines. I read of a curious practice here. When the herrings are about, cod and coalfish follow and eat them most ravenously, and, when caught by the fishermen, are found to be full up to their throats. As soon as they are brought ashore the fishwives slit open the marauders, take out so many herrings as are not partially digested and send them to market. In theory these entombed herrings are only used for bait. Cullercoats is another little fishing village near the Tyne, and here a good deal of line work is done. The place possesses a small harbour. All along the Northumbrian coast are dotted little fishing villages, the inhabitants of which use the curious craft known as cobbles.

This concludes my brief survey of the English, Welsh, Scotch (including the outlying islands) and Irish coasts ; but nothing has been said about the Channel Islands. There is a good deal of fishing both from pier and boat at St. Peter's Port, Guernsey, which should be visited between April and July, and the fishermen of the island are particularly expert in the use of the living sand eel as bait. It was from them, I believe, that Mr. Wilcocks learnt the importance and value of the method which he has introduced among fishermen on the English coasts. There is a great deal of sea fishing also round Jersey, but Mr. Wilcocks says it is not so good as in the neighbourhood of the sister islands. Alderney affords first-rate pollack fishing, and bream, pout, and occasionally bass are plentiful. It is not altogether safe to go beyond the break-water without a local boatman, as the currents which twist and

twirl among the rocks are dangerous near the island of Burhou, beyond the Singe Passage. Capital fishing and many varieties of sea fish are caught from the breakwater and other suitable places along the shore. The Channel Island fishermen are expert in the use of a shrimp ground bait called *chervin*, which reminds me that they term smelts, *gradots*; pollack, *whiting*; octopus, *pieuvre*; squid, *conée*; and cuttlefish, *sèche*.

Of course I make no pretence of writing a complete guide to the British and Irish coasts. I have simply aimed at giving, in these few notes, a general idea of those parts of the coasts at which good sport may be expected, and also of certain places which should be shunned by the enthusiastic sea fisher.

A word here as to the importance of the British fisheries. At the fishing stations I have referred to were landed during 1894, 14,046,000 cwt. of fish other than shell fish. At the port of landing these were worth nearly 7,000,000*l*. Many tons of them, however, came from foreign waters. With shell fish the total takes are valued at 7,200,000*l*.

DUTCH BINS LAYING NETS

## CHAPTER III

### WHIPPINGS, SERVINGS, KNOTS, HOOKS, AND SUNDRY WRINKLES

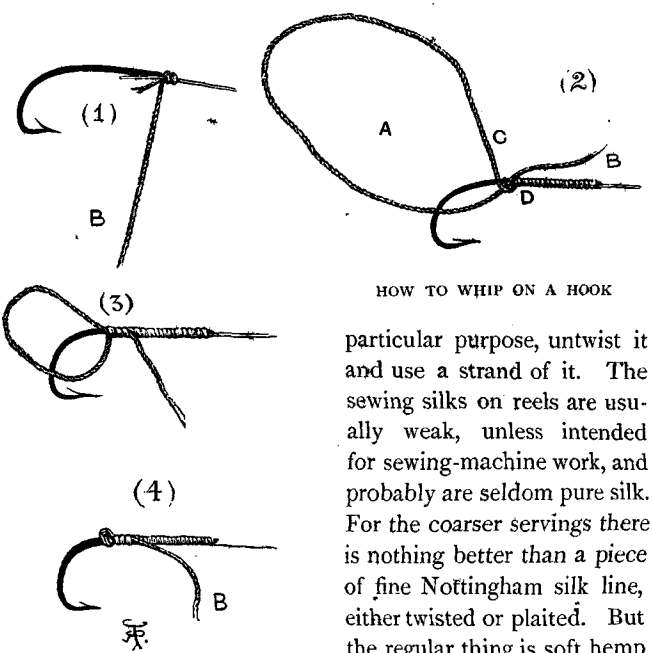
WHILE it is not necessary for a fresh- or saltwater angler to be intimately acquainted with the details of tackle-making, it is certainly most desirable that he should learn how to tie or whip a snooding on to a hook, join lengths of gut together, renew a ring on his rod, and do sundry other little incidental matters any one of which may crop up in the course of a day's fishing. These things are easy, provided we know the right way of doing them; and everyone who fishes either in fresh water or salt—except, of course, anglers of some experience—should carefully read the instructions given in this short chapter, made easily understandable by means of diagrams.

Most necessary materials for repairs and simple tackle-making are wax, some strong silk, linen thread, and lightly twisted, tarred, hemp twine. These are for whippings and servings. I am not sure whether there is any great difference between these two terms. Perhaps when we bind two things together, as, for instance, gut to hook, we should call it a 'whipping;' while for the simpler binding, intended merely to act as a protection (for instance, a binding of silk laid round a length of gut to prevent a lead which is on the gut from fraying it), we say we 'serve' the line rather than 'whip' it. But the process in each case is the same.

For wax we should have either that used by cobblers, or harness-makers, or simply a piece of beeswax. The first is the most sticky; the last is the cleanest to use; the harness-

maker's, standing midway between the two. I generally use beeswax myself. If cobbler's wax is used it should be kept in a piece of leather so that it need not be touched with the fingers.

The strongest silk, easily obtainable, is the 'twist' sold for edging buttonholes in cloth. If it is too coarse for any




HOW TO WHIP ON A HOOK

particular purpose, untwist it and use a strand of it. The sewing silks on reels are usually weak, unless intended for sewing-machine work, and probably are seldom pure silk. For the coarser servings there is nothing better than a piece of fine Nottingham silk line, either twisted or plaited. But the regular thing is soft hemp twine dressed with Stockholm tar. It is useful for a variety of purposes, particularly for whipping the ends of ropes and the stouter fishing lines to prevent them from becoming unravelled. If we have not the best thing possible for any of these purposes, common twine will suffice, or even sewing cotton, though that is poor stuff. In fact, whatever is available must be used, always bearing in

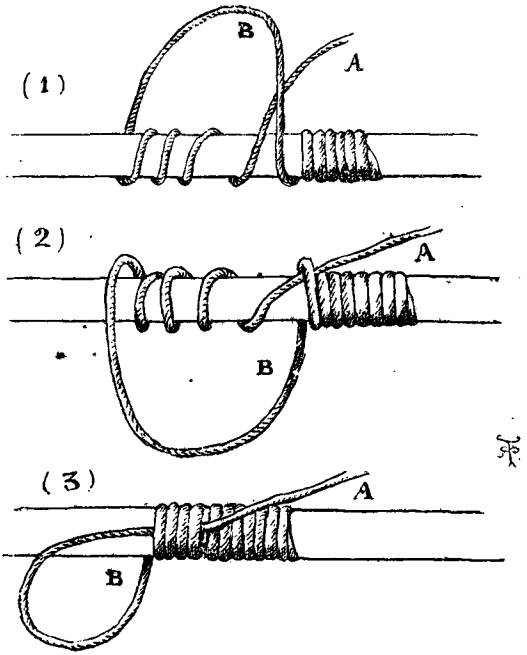
mind that if it is too fine several pieces can be twisted up together, and if too coarse it can be unravelled into several strands. Of all men the angler should be, and usually is, the most resourceful.

To begin a piece of binding it is usual to lay the silk, which should be thoroughly well waxed, in the position shown in the diagram (1), but some people start it with a clove hitch (see Chapter VII.) The waxed silk is then carried neatly and tightly round and round the thing to be whipped or served. The finish-off always embarrasses beginners. There are several ways of doing this, and I will give two ; the first being suitable for a hook or the point of anything. A hook is shown in the diagram on the previous page, and for the sake of clearness it is a large one and the binding somewhat thick.

Having wound on nearly as much silk as is required, the end B should be laid straight along the shank (2), leaving a loop A large enough for the point and bend of the hook to pass through (3). Hold the hook and the end tightly in the right hand close to D, and with the thumb and first finger of the left hand take hold of the silk at C and wind it three times round the hook (3). At each wind the point and bend of the hook will pass through the loop ; then (4) pull the end B until the loop disappears ; cut off the end, and the thing is finished in much quicker time than it has taken me to describe it.

But suppose we have to whip on a ring in the middle of the rod. It would be very inconvenient to make the loop A (2) large enough for the rod to pass through. That would require a piece of silk ten feet long or more ; so we effect exactly the same finish in the manner illustrated. Place the thumb and finger of the right hand over the bound portions to keep them in position, and deal with the end of the silk exactly in the way shown in the diagram (p. 63, fig. 1). Then take hold of the silk at B, wind it three times round the rod, as is commenced in fig. 2, and completed in fig. 3 Next pull the end A tight and the slack piece will disappear. It is very much like a conjuring trick, and quite as simple when you know how it is done.

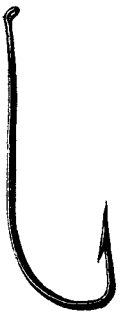
There are several yarnishes made expressly to cover whippings of this kind, and they are suitable for nothing else. The following is a good receipt : powdered shellac 6 parts, spirits of wine 8 parts, gum benzoin 2 parts. The binding after being varnished should not be exposed to the wet for at least twenty-four hours, and it is important that it should be kept in a dry



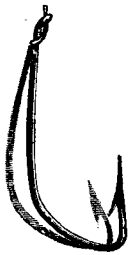

TO FINISH CENTRAL WHIPPINGS

place. This varnish is suitable for whippings on rods and hooks, but not for those at the ends of ropes or lines. For them the tar or wax on the whipping material suffices.

If one is binding on hooks intended to catch fish with sharp teeth, it is a capital—in fact, almost necessary—plan to take some fine soft copper wire, *wax it well*, and serve over the



1. 'PENNELL-LIMERICK' HOOK (EYED).



2. CURVED LIMERICK HOOK (EYED).

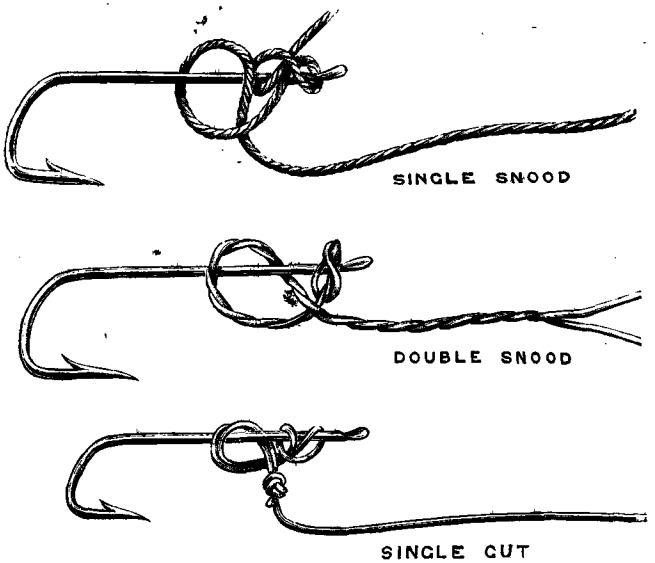
3. ROUND BEND HOOK (FLATTED) SHANK

silk binding. It can be finished off in the way I have described.

Two kinds of hooks are used in sea fishing: those with eyes and those with flat ends; the second being most favoured by professional fishermen, probably on account of their cheapness. I much prefer eyed hooks. Sea hooks are usually tinned; but tinning, while only partially preventing rust, blunts the point of the hook. Black japan is better; but unfortunately, for some reason or other, makers seem as a rule to japan common, badly tempered hooks. In practice I find that the rusting of the ordinary browned freshwater hook is inconsiderable, particularly if the hooks are smeared with vaseline or other grease. Hooks are so cheap that a rusty one can be thrown away without a very serious pang. The Pennell-Limerick hooks (fig. 1) are good for sea fishing, but I rather prefer for the purpose a rounder and wider bend with a twist in it, shown in fig. 2, and usually called a curved Limerick. It is a fine hook for holding mussel bait. Sea fish have large mouths, and hooks with a twist are more likely to catch hold than those which are flat, while the loss of penetration is not sufficient to be of any importance with fish which have *soft* mouths. A sharp point will make up for it. Always carry a watchmaker's file and a fragment of a hone to renew the points of large and small hooks respectively. Note if there is any rust where the gut or snood is tied on, and when this is apparent, at once retie.

Another most excellent hook is the common round bend. The one shown in fig. 3 has the flatted head I have referred to.

If the ordinary sea fishermen's snooding is tied on a flatted hook, it should be fastened on by one of the methods shown in the illustration, though it is far neater whipped on. If gut is used, it may be knotted on as illustrated, but whipping is neater, and as lasting if effectively done. In the latter case, the end of the gut should be first placed between the teeth and lightly bitten, so as to roughen it a little—this to prevent it slipping.




METHODS OF ATTACHING SNOODS TO FLATTED HOOKS

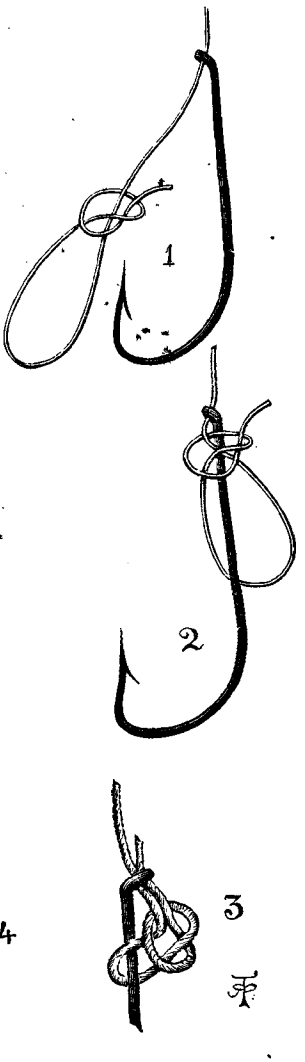
Both the shank of the hook and the end of the gut should be waxed before being laid together, and any grease on the hook shank carefully removed. There is nothing more annoying than to lose a good fish by the hook slipping away from the gut.

For tying gut on to eyed hooks there are a great variety of knots; several of them are equally good, and I confess I hardly know which to recommend. One of the simplest and best for

sea fishing, shown on the right hand, is a slight variation of the Turle knot. It is very secure, very easily tied, and the end sticking up through the eye serves to prevent certain baits from slipping down the shank of the hook. If large fish are expected, especially those with teeth, it is a good plan to let the end be an inch in length, and put a few turns of silk round the two strands of gut immediately above the eye of the hook. This not only lessens the likelihood of a fish cutting the gut, but also strengthens a weak point where there is much wear and tear.

FIGURE OF EIGHT KNOT FOR HOOK WITH SMALL EYE

If it should happen that the eye of the hook is too small for the gut to pass through it twice, the end need not be passed through, or the knot shown in the left-hand illustration, which, it will be noticed, is a figure of eight, may be used. It is neat and absolutely safe, which is more than



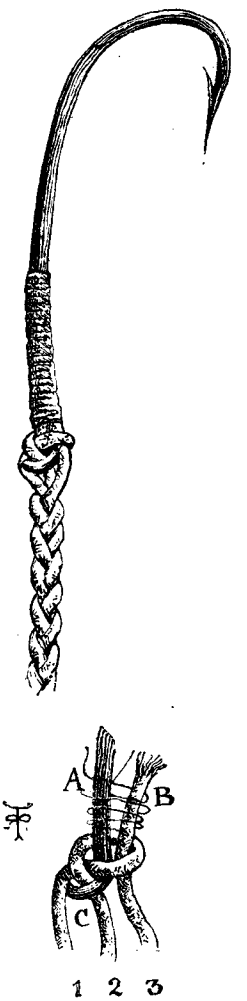

SAFE KNOT FOR HOOK WITH LARGE EYE

can be said of some knots which have been recommended for this purpose.

TWO METHODS OF ATTACHING GUT CASTS TO FLIES FITTED WITH GUT LOOPS

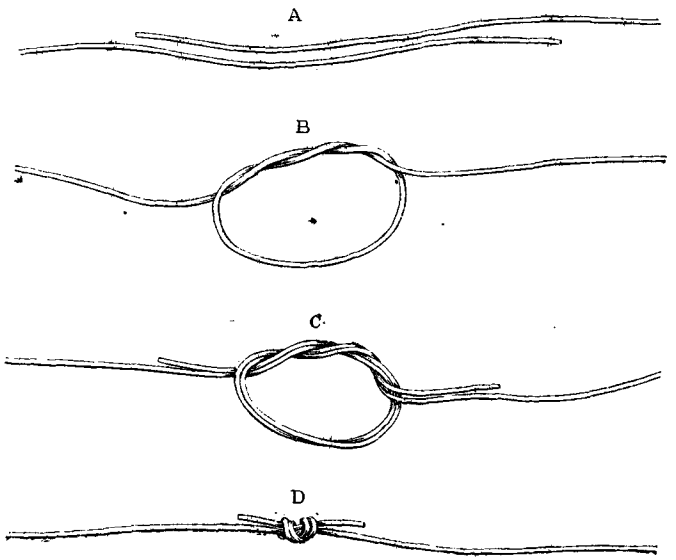
In the case of bass or other flies tied on ordinary hooks and fitted with gut loops, two plans of attaching them to the gut cast may be followed. The strongest, but not the neatest, is to make a loop at the end of the snood or cast, put it through the loop of the fly, and then the fly through the loop of the snood or cast. This may seem complicated, but is really most simple. The result is shown in the left-hand illustration. The second method is to tie the cast to the loop of the fly, one of the best knots for which—best because it is most easily undone—is also illustrated.

For conger I tried the experiment of making up snooding as illustrated, and found it to answer extremely




PLAITED CONGER SNOOD
A, shank of hook; B, third strand; C, eye of hook

well. Gimp is largely used by amateur fishermen for this purpose ; but on the whole I prefer soft hemp, and believe that it is more successful with conger. A good-sized conger hook with a big eye is required, and a yard and a half of eight-plait tanned hemp or flax line is arranged on the eye and shank of the hook in the manner illustrated. The end (B) is next whipped to the hook shank (A), and the three lengths of line which now start from the eye are loosely plaited together. This snood, which closely resembles one of those used for tarpon, should be about two to three feet in length. It will be noted that only one of the three lengths of line passes through the eye in the illustration. If the eye is large enough, two and, if possible, all three lengths should pass through the eye. So much for hooks, whippings, and servings.



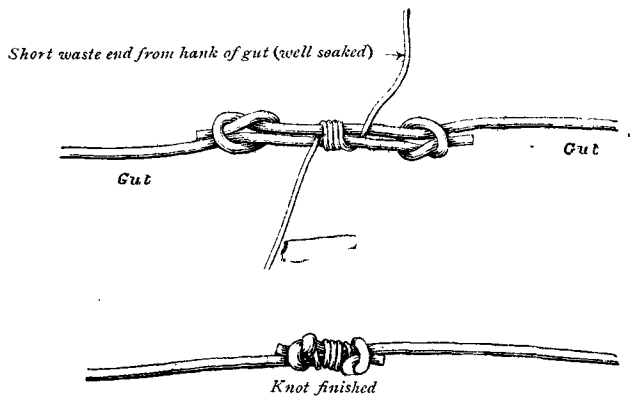

ORDINARY GUT KNOTS

A necessary knot to be learnt is one suitable for tying two lengths of gut together. A strong trustworthy knot is quickly

made by laying the two ends together (A) and tying them in a simple knot, placing the ends through a second time (C), and then pulling the knot tight (D). I trust this will be understood by means of the illustration on the opposite page. The portion of the diagram marked B is inserted to show how the knot looks in a single length of gut. The knot is made in exactly the same way when the two ends are laid together.

Another safe gut knot in common use is illustrated above, and sufficiently explains itself.

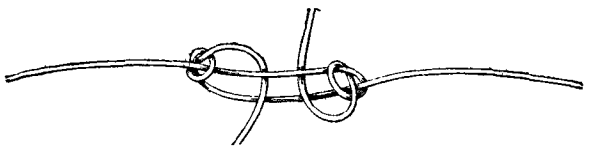
The buffer knot is another good one ; a little more elaborate, but nevertheless neater, and very much stronger. I learnt the way of tying it, shown in the illustration, from an Irish




IMPROVED BUFFER KNOT

friend, who has greatly improved on the old original buffer. The little piece of serving in the centre of the knot was formerly made of silk, but my friend's plan is to use for this purpose the waste ends of gut—that fine crinkly stuff which we find at the end of every hank, carefully swaddled in red worsted. It

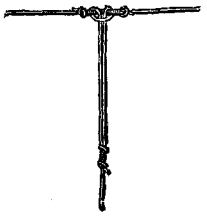
should, of course, be well soaked. When the knot is pulled tight the ends of the fine gut, which are tucked in, in the manner illustrated, hold securely. My friend Mr. Tracey has shown me a method of making what is practically a buffer knot without whipping. He has found that it answers its purpose very well, but it is not quite so neat as the improved buffer above described. Certainly it is a handy knot when one is hurried and the wherewithal to whip is wanting. Here again the illustration obviates the necessity for verbal description.



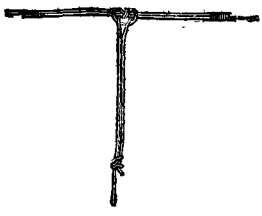
A BUFFER KNOT WITHOUT WHIPPING

It is a great mistake to soak gut in hot water; heat and moisture soften it, but on drying it becomes more brittle than ever. Good new gut hardly requires soaking at all; but new gut seems to be very scarce, and a long soaking in cold water (from two hours to all night, in rain water for preference) is really necessary if we wish to make up thoroughly sound tackle. Messrs. Allcock have introduced gut for which perpetual softness, brought about by chemical treatment, is claimed. I have not tried it for sea fishing, but may say that a three-hours' soaking in glycerine solution (glycerine, ½ oz.; boiling water, ½ pint—gut placed in it when cold) has been strongly recommended recently. I have for some time been endeavouring to persuade men living in tropical countries, more particularly India, to take up the silkworm gut question. So far, strands of gut from five to seven feet in length have been produced from the Tussur silkworm, but owing to inexperienced manipulation they have not had the necessary strength. The length, however, *is* remarkable. Good long gut has also come over from Japan; so before very long we may look for snoods and casts without any knots whatever. But so long as knots are essential, the

improved buffer must be regarded as the best. On it may be hung a dropper for a second fly, if needed, in the manner illustrated. If the cast is made up with ordinary knots, the



DROPPER ON BUFFER KNOT



DROPPER ON CAST MADE UP WITH ORDINARY KNOTS

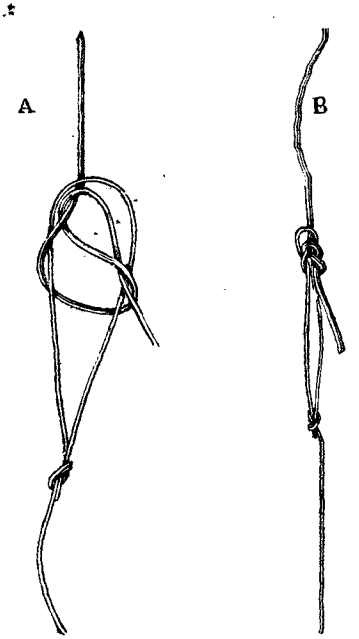
ends of the knot at the spot where the dropper is to be attached should be prolonged and whipped down to increase the strength at that point.

The cost of gut varies in a great measure, according to its length. Nowadays we are often able to buy hanks of very stout, short, cheap gut, which do for sea fishing, particularly for the hook links of paternosters, at a very reasonable rate. Sunlight and a dry atmosphere are particularly injurious to gut. It is a good plan to keep any casts or hanks of gut wrapped up in washleather and placed in a tin case. Odd pieces of gut, or casts or snoods which are intended for use during the day, will keep pliable, knotable, and free from curls if carried in an old tobacco pouch, the interior of which has been previously moistened.

To fasten the reel line to the loop at the end of the gut, gimp, or other snood, there is nothing better than the common bend ; but as a precaution I should put a little knot at the end of it as shown in the illustration overleaf. When fishing with the fly the line is drawn back through the water a good deal, and this projecting end is undesirable. A capital knot which I can also recommend to salmon fishers for attaching the running line to casts for fly fishing, and to traces or to snoods for whiffing &c., is the figure of eight, which is sufficiently

explained in the illustration. Its advantage lies in the end of the reel line lying snugly alongside the cast and pointing downwards, so that it cannot catch in floating weeds nor cause any stir in the water when drawn through it. It is practically the same kind as that used on the eyed hook. It is absolutely safe. In A it is loose, in B pulled nearly tight.

RUNNNG LINE KNOTTED TO LOOP OF PATERNOSTER, ETC




RUNNING LINE ATTACHED TO FLY CASTS OR WHIFFING SNOODS BY FIGURE OF EIGHT KNOT

Twisting gut or hemp yarn is a simple matter. The little secret—for there is one—is to take two ends (the other ends being fixed on a nail or otherwise), twist each *separately* in one direction, then lay the ends together and twist *both together* in the opposite direction. This process is very simple. Little twisting machines are sold for anglers' use, but everything that

is necessary can be done with the fingers. To make a double twisted gut snood, take two gut casts of the requisite length, and after soaking twist together in the manner directed. The second twist, when the two are laid together, will work of itself if a weight of a pound or more is attached to one end of the casts and allowed to revolve. This gives a more regular twist than if the second twist is done with the fingers. Gut is easily plaited. In that case begin with three strands, and when about an inch and a half from the end, plait in the ends of three other strands, repeating this operation until the snood is sufficiently long.

Reel lines frequently require joining together, and there is no possible knot with which this can be done, as any projection of that kind on the line may catch in the rings during the run of a big fish and bring about a smash. Splicing, as sailors use the word, while not quite out of question, would be a very long, tedious process with a fine line such as is used on reels. But with a little care the two ends can be satisfactorily joined together in the following manner. If it be a plaited line, slant off each end which is to be bound, with the aid of a sharp knife or a pair of scissors; then thoroughly wax the two ends; press or roll them together with finger and thumb, and proceed to bind them over most carefully and securely with well-waxed silk, finishing off in the manner already described (p. 63). The two ends are overlaid for about an inch and a half. Next warm your beeswax at the fire until it is very soft, and rub it on to the binding. Then place the line between the palms of the hands and rub the palms together briskly as one does sometimes on a cold day, rolling the line backwards and forwards. This works the wax right into the binding and gives it a nice smooth finish. Fine twisted lines can also be spliced in this way, the ends being unravelled, waxed, rolled together and bound over.

With regard to waterproofing lines, the best dressing consists of boiled oil—in fact, the same as sou'-wester and oilskin coat and trousers would be dressed with; but the process is

long and troublesome, and hardly one fitted for the amateur to undertake. The line should be soaked in the boiled oil all night; then stretched, and the superfluous oil rubbed off with a piece of leather or rag. It should be left until quite dry in a place of shelter where the rain cannot get at it; and then a second dressing should be given. Some of the best lines nowadays have the oil dressing driven into them by placing them in an air pump. I much prefer tanning lines intended for sea fishing, and even the tanning is unnecessary because the lines are so cheap. A recipe for tanning silk and hemp lines is given in Chapter VII.

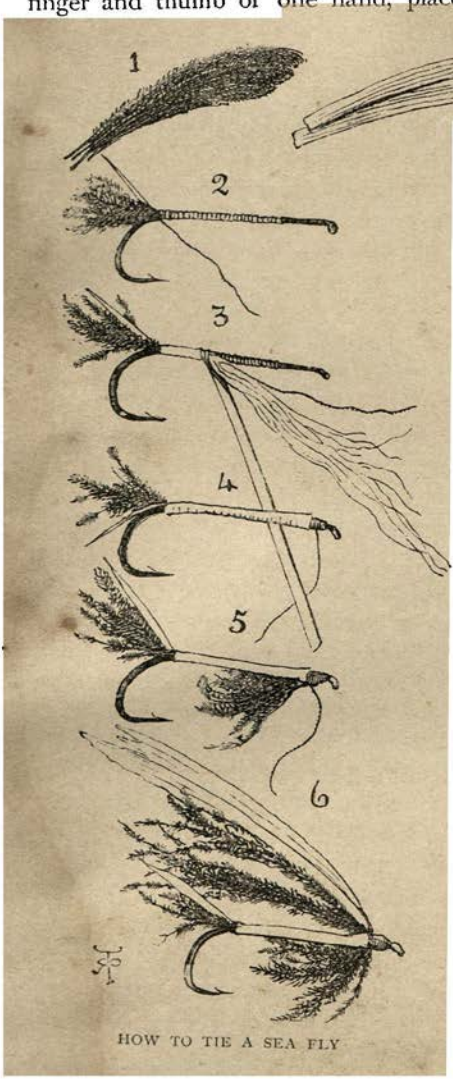
There is a little dodge for winding a new line on a reel, for which I am indebted to Mr. Cholmondeley Pennell. It is not the least of the many useful practical hints he has communicated to fishermen. Take the coil of line and place a roll of newspaper through it large enough to almost fill up the centre of the coil. Next place two chairs about 2 ft. 6 ins. apart; insert a walking-stick through the centre of the roll of newspapers, and lay the two ends of the walking-stick on the chairs. The line will then be on a sort of winder, and all we have to do is to get the end free, fasten it to the reel, and wind away.

Rod-making is, of course, beyond the scope of this book; but I would earnestly impress upon sea anglers the desirability of keeping their rods thoroughly well varnished or oiled, and of renewing whippings whenever necessary. Any good coachmaker's varnish is excellent for rods. The longer it takes in the drying, the more elastic and durable it is likely to be. The ferrules should be lightly smeared with vaseline from time to time, and the little sheaths of the short boat rods, which will be mentioned later on, should be kept well oiled. Never place a rod in a damp corner or hang it up against a damp wall. Beware, too, of damp cases for your rods. I severely injured a split cane rod once by carelessness in this respect. On getting to the river I took the rod out of its case, put the case in my creel and fished away all day. There were a few showers which,

I suppose, penetrated through the wickerwork and wetted the rod case; at any rate, it was moist. Without observing that the material was damp, I took the rod to pieces, placed it in the case and left it there some days. The result was that one of the tops which required varnishing came unglued. This happened five hundred miles from a tackle-maker. I do not suppose split cane rods will be much used in sea fishing. Certainly there is no necessity for them; but any rod may be injured in this way. Stops are sometimes the ruin of rods. Wet enters a female ferrule during a day's fishing; at night the careful angler, when he takes his rod to pieces, inserts a stop in the ferrule, carefully corking up the moisture, and the wood inside swells and in time rots.

Sea flies are so easily tied, and there is such a large field for experimental work in testing different patterns on sea fish, that I will venture a few directions as illustrated overleaf. If you are not using eyed hooks, it is necessary to whip on a little loop of gut about an eighth of an inch long to the end of the shank, or, better still, a loop of twisted gut. When doing this carry the binding silk on to the beginning of the bend of the hook, there bind, with about three turns of the silk, half a dozen strands of peacock harl (1) to form a tail (2), and place under the end of the binding the end of a piece of flat silver tinsel about two inches long. Next lay a piece of white worsted or floss silk down the shank to make the body plump, wind the flat tinsel round the body of the fly (3) up nearly to the loop, and take a couple of turns round the tinsel with the silk, and hold it in position (4). There only remains to tie on the wings and legs, and here you will have a little difficulty. Not that there are any special directions to be given, but the manipulation is not very easy. Take some short strands of peacock harl, hold them underneath the end of the shank and twist the silk round them (5); then take some longer strands of peacock harl (1), judging their length from the illustration, keeping it, of course, in proportion to the size of the hook, and lay over it a couple of strips of white swan's feather, introducing, if you

like, a strip of red on each side. Hold this between the finger and thumb of one hand, place it on the end of the



HOW TO TIE A SEA FLY

shank, and with the other hand twist the binding silk round firmly several times (6); then finish off in the manner shown for whipping gut to hook (p. 61). Touch this binding with the shellac varnish, and your fly is ready as soon as the varnish is dry, which will be the following day. If you are in a hurry to use it, melt a little bees' or cobbler's wax on the binding and it can be wetted at once.

The first fly may be somewhat of a duffer, but it will probably catch fish as well as any more highly finished production. Beginners are very apt to make the mistake of not leaving room enough on the end of the shank to tie on the wings.

They make the body too long, not only at this end, but also at the other.

Every man ought to know how to dress for rough, windy cold work such as sea fishing often is. 'All wool' should be the motto of the sea fisherman. There is nothing better than a loose-fitting sweater or jersey made not of the wool of the shops, but of the homespun material produced in the crofters' cottages of the west of Scotland. It contains the natural oil and has wonderful wet-resisting properties.

Thanks to years of experience, sailors and fishermen have found out what is best to wear on the sea, and in copying their oilskin, sou'-westers, and double-breasted pilot jackets you will be doing a wise thing. Indiarubber boots, felt lined, are very comfortable on a wet, cold, autumn day in an open boat; though not very nice things to swim in should you be upset. They want propping open with short pieces of stick on going ashore, and carefully drying inside. Perhaps a better arrangement is two pairs of stockings and an unlined indiarubber knee-boot; the felt is certainly the warmer and more comfortable, but the stockings, which get moist from perspiration, can more easily be dried than the felt, and can moreover be washed. In winter, sea fishermen often wear over their socks and trousers a pair of large oily stockings, and over these again their long sea boots. Thick gloves without fingers are almost a necessity during the bitter winter weather which is experienced in the North Sea.

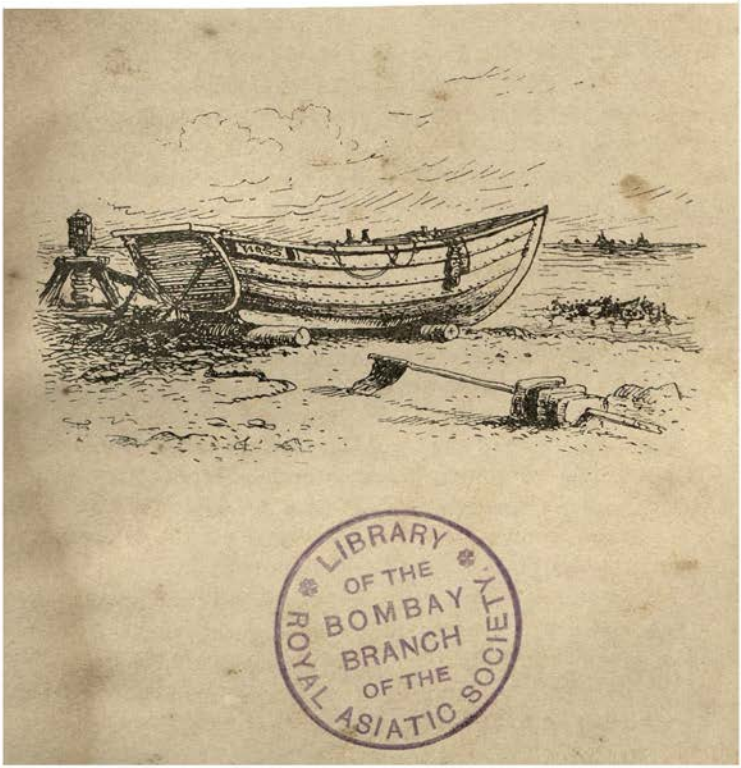
On some parts of the coast the oilskin coats are fitted with strings instead of buttons, the men finding that in winter a reef-knot is much more easily undone than are button and button-hole. For saltwater work I much prefer oilskins to any form of mackintosh.

Never judge of the temperature at sea by the mildness of the air on shore. It is nearly always more or less chilly when we get a mile or two from the land if any breeze is blowing. One learns by experience, and I am quite ready to run the risk of being called an 'old woman,' for advising all would-be sea fishers,

if they will not heed my warning as to dressing warmly, at least to take plenty of wraps with them when they go down to the sea in boats.

The knots used in handling ropes and boat-gear come more appropriately in Chapter VII., where they will be found illustrated.

I have purposely given no hook scale because the makers have very foolishly not yet adopted any standard of sizes, but as a surer guide a number of illustrations will be found in which the exact size of the hooks required are carefully drawn.



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## CHAPTER IV

### BAITS

WHILE there is a large variety of fascinating and seductive baits for sea fish, from the lamentable fact that the very great majority of them are derived from the sea or its shores, they are not always readily procurable, and the sea angler now and again finds himself beaten. Practically speaking, there are four kinds of natural baits : worms, oily kinds of fish, certain shell fish, and all the cuttlefish or cephalopoda. I intend to take these in alphabetical order, indicating how they should be sought after and used. But I may say here that in any town in which there is a merchant in shell fish, or, in less grandiose language, a whelk shop, there bait is likely to be obtained—first-rate mussels, large and luscious ; delicate little cockles ; periwinkles ; and sometimes limpets ; while for the long line which requires a good tough bait there are the whelks. In not a few places the proprietors of these useful establishments, having of late years been patronised by anglers in salt water, very sensibly also keep a small supply of lug and rag worms ; the first mentioned being one of the best possible baits for ground-feeding fish, though odious to use. My advice then is, when visiting new regions, hunt up the shell-fish shop (it will probably be down a side street in a more or less slummy neighbourhood), and see what that will bring forth. Even if mussels, and whelks, and the commoner kinds of bivalves are not procurable, we can throw thrift to the winds and utilise cheap oysters as baits for our hooks ; some of the large and high-flavoured members of this family which come from foreign parts are fit for little else. It

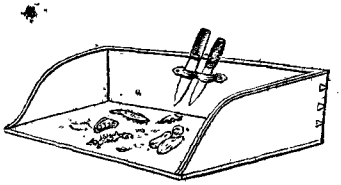
should be also remembered that sea fish are fond of the beards of oysters.

For lugworms and ragworms we must go to the sands and muddy estuaries. Where much line fishing takes place, the lads are practised in the art of catching these objectionable-looking baits, and will keep up a daily supply for a small consideration; but if there be neither sands, nor mud, nor shell-fish shops, then, unless we import worms from more favoured localities, we must, if mussels also fail us, seek mackerel, sprat, herring, or pilchard at the fishmonger's. He may perhaps have some grey gurnard, and will most surely be able to supply us with sole-skin with which to make small baits for bass and other fish. Almost any bright, shining skin which is sufficiently tough may be used for this purpose. Smelts, too, are to be had at the fishmonger's, and these are serviceable on the bottom for whiting and cod, besides making very good spinning baits for bass or pollack. If there are any trawlers about they will generally bring home in the early morning some squid or cuttlefish; but these curious creatures are so plentiful on some parts of our coast that they can be easily caught by means of a bait, as to which more anon.

Thanks to the liberality of gentlemen living at Plymouth, experiments, which were continued for some time, were made under the auspices of the Marine Biological Association with the object of discovering some chemically prepared bait for sea fish. Those who know the difficulty there often is in obtaining a few baits for a day's fishing with the paternoster, can well understand that professional fishermen, who deal with thousands of hooks and miles of line, must be from time to time seriously hampered by want of bait. For while there is often a great abundance of sprats, pilchard, herring and mackerel, in some seasons next to nothing is to be obtained suitable for the purpose. It was thought possible an oily extract of pilchard could be produced, with which some substance in common use and easily procurable could be flavoured. It can hardly be said that any success attended the experiments. The extract was

certainly made, but no substance has yet been discovered which, when flavoured with it, will keep on the hooks and be acceptable to fish. Possibly some sea angler of the future will make the discovery ; for sea anglers are not less ingenious than other members of the craft. One medium which I suggested to the then director of the M.B.A. was macaroni. If the hollow centre could be filled with the extract of squid or pilchard and the ends sealed, the whole would be permeated with the strong-smelling liquid. From the mullet-fishing experience related in Chapter XI. it seems that at least one sea fish favours this bait even without the essence. If a quasi-artificial bait of this nature can be discovered, the fishermen will benefit to the extent of many thousand pounds annually.

In connection with baits there are one or two little items to be considered—namely, a bait knife, a hone on which to sharpen it, a bait box, and a bait board. Any flat wooden box with a cover—if hinged so much the better—dressed with pitch inside, and with a few small holes at the sides for ventilation, answers very well to hold sea worms. It should be kept scrupulously clean, and the size must, of course, depend on the size of the bait and the quantity required. Dead baits *must* be removed daily. For just a few ragworms the ordinary japanned tin bait boxes used for worms and gentles answer well enough, but they must be japanned inside as well as out to prevent rust. More often any old mustard or other tin which may be forthcoming is used and thrown away afterwards.



BAIT BOARD

The bait board is a very important portion of the sea-fisherman's impedimenta ; for when fishing from the shore it is impossible to prepare fish baits properly without having a piece of wood on which to lay and slice them. In a boat, too, if a bait board is not provided, the thwarts get into a filthy

condition, and sooner or later someone sits down in the odious mess. Perhaps some who read this will laugh and say I must be a fair-weather sailor indeed if I object to a little mussel juice or a piece of mackerel being squashed over my clothes. Most of us can put up with these things if necessary; but in a boat, of all places, any dirt or general untidiness should as far as possible be avoided. If a quantity of bait gets knocked off a seat on to the floor of the boat, it is as likely as not to cause one of those on board to slip and fall, and perhaps bring about a serious accident.

A convenient size for a bait board is eighteen inches in length and eight inches in width, with a small combing round the back and two sides. The floor of it should be made of oak or any hard wood about an inch thick. The combing, which should be fixed on with brass screws or copper nails, may be of deal for lightness.

The knife should have a long, flat, thin blade of the very best quality. A very good edge indeed is required to cut fish-skin and other baits. This knife should not be used for opening mussels, for which something stouter with a strong edge is necessary. When mackerel fishing the knife may want sharpening three or four times during the day, and therefore a hone is necessary.

And now to take the baits seriatim. The list is long, and it is to be hoped some will always be available.

*Bacon Skin.*—This is by no means a bad bait for bass and pollack, either for whiffing or casting, and may be cut out of either a thin-skinned piece of bacon or salt pork. It should be soaked and scraped. No fat should adhere to it. Either a triangular piece three or four inches long and an inch wide at the base should be used, or else a narrow strip half an inch wide and three or four inches long, slightly rounded at the end next the hook and brought to a tapering point, where it should be scraped thin and split. If the triangular piece is used, insert the hook at the apex of the triangle. I prefer when using simply a strip of skin to insert the hook at the thick end,

to bring the bait up to the top of the shank, and then bind round above the eye, or flatted end of the hook.

A capital imitation of a small squid or cuttle can be made out of a piece of semi-transparent pork-skin. The illustration renders an explanation almost unnecessary, but I may say that the piece of skin provided for the artist was somewhat over-adorned with bristles. It should be well scraped before being cut to shape, and more than two feelers or tentacles can be hung on the hook if the angler so pleases. A strip of skin of any kind is easily fixed on the two-hook tackle used for worms, &c. (see p. 106). A number of these baits can be prepared and placed in a bottle of salt. If you wish to be particularly artistic, you can cut out from a piece of pork or bacon skin an imitation fish and attach that to the shank of the hook in a similar manner. A strip of pig's bladder has also been used with good effect as a whiffing bait. Bass are fond of bacon or pork skin, which, owing to their partiality for a semi-putrid bait, is sometimes soaked for a day or two in weak soda water to render it a little gamey.

BACON-SKIN BAIT TO IMITATE A SMALL SQUID OR CUTTLE

*Bass Skin.*—Bass skin makes a capital bait for whiffing or railing. A long strip half an inch wide should be cut off what I may term the edge of the belly of the fish. This should be opened and split down the middle, which will give two long strips, each half an inch wide. These can be cut into triangular pieces, the point of the hook being placed at the apex of the triangle; the bait then has a much more lively motion than if

the hook is inserted at the broad end or base of the triangle, as is the custom on some parts of our coasts.

*Bloater.*—There are two fish which will take a strip of moderately salted bloater, viz. bass and eels ; but this bait is not so killing as others which may be used. In some places, however—Poole Harbour to wit—bass will take a very corrupt bloater with gusto.

*Cockles.*—I have found these little shell fish excellent bait for sand dabs, plaice and flounders. Whiting pout are very fond of them, and, indeed, few fish will not take them at times. They are, however, not so killing a bait as the mussel. On some sandy shores they are extremely abundant, and may be picked up without difficulty, professional cockle-gatherers using a rake, as they lie a little below the surface. They should be scalded before being used : this opens the shells and solidifies the fish. Being small bait, it is often necessary to place two or three on a hook.

*Chad Bait.*—This is the young of the sea bream, and much used on the coasts of the West Countrie. I shall have more to say concerning these little fish later on in Chapter XIII. under the head of 'Bream.'

*Crabs.*—The ubiquitous green crab when in full marching order—that is to say, with all its armour on—is not much used as a hook bait, but is extremely valuable when pounded up as a ground bait. Crushed and commingled with raw potatoes, it is thrown in over the smelt net. I have so often found infantile crabs inside fish I have taken, that there is little doubt one of these minute creatures about the size of a sixpence, or a little larger, would be a very good hook bait ; but I have never used them, owing to the difficulty of obtaining a sufficient quantity. When the shelly armour has been cast away, and pending the growth of another, the crab is excellent as a hook bait. During this period it hides in any safe, and sometimes unsafe, nook or cranny. I have heard of people taking a mean advantage of these poor creatures by placing in estuaries and harbours a number of artificial resting places,

into which the unsuspecting crabs enter for the purpose of changing their shells, there to be collected from time to time by the heartless bait-catcher.

There are few fish which will not take soft crab ; flounders and bass are particularly fond of this. Crabs are also a good bait in brackish water for silver eels. They, of course, have to be cut up into pieces of suitable size, according to what we are fishing for. Another use for them is to bait prawn nets. On the whole, they should be borne in mind and in bait box, and used whenever occasion offers.

Almost, if not quite, as good a bait is that extremely curious little creature known as the hermit, soldier, or farmer crab. I have something to say about him in the chapter on Shell Fish. Suffice it now that he is usually found contained as to his body in a whelk shell. This soft, corkscrew-like body and tail of his form an excellent bait, and to obtain them his shell must be gently broken. It very often happens that curled up by the tip of his tail in the innermost recesses of the shell will be found a somewhat large worm, akin to the ragworm of the harbour. This peculiarly situated creature is also a good bait for most kinds of fish. The tail of the hermit crab is much appreciated by flat fish, codling, haddock, &c. Hermit crabs are obtainable from trawlers and the owners of lobster pots. A few may be found among the rocks at low tide, and occasionally one will take a hook bait and be lifted into the boat.

*Crass.*—Several kinds of anemones are used as baits for sea fish, but the difficulty generally is to obtain a sufficient number of them. There is in particular one called by the fishermen 'crass'—a thick, firm, fleshy creature of a dull red or salmon tint, which often grows to a large size. It is so firm that when large enough it can be cut up into several baits. Cod and many bottom-feeding fish take it readily enough.

*Cuttle fish* and *Octopus* I have generally described in the remarks on Squid (p. 111).

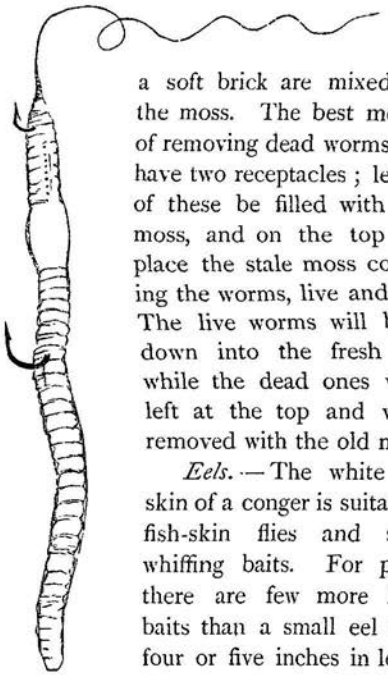
*Earthworms.*—Earthworms are not particularly good baits for sea fish, but they should certainly be used when nothing

better is obtainable, particularly in brackish water, where eels and flat fish will take them well enough. I gave them a prolonged trial in salt-water one summer, and caught a large number of sand dabs and plaice, but found that they very quickly died. In fact, salt water is fatal to worms of many kinds ; and one way of capturing these baits is to sprinkle the garden path with a strong mixture of hot salt and water, with or without the addition of mustard, which will bring the worms out of their holes in double-quick time. In the matter of weeds the process also furthers gardening interests, for that year at least.

To obtain a large quantity of lob or dew worms it is necessary to go out at night with a lantern, wearing a pair of tennis shoes. If it be not frosty or very windy, the worms will be found on lawns and at the edges of paths, lying half out of their holes, taking a dew bath. If there has been a shower just about sundown, they will be very far out indeed ; but if the weather be dry, only a fraction of their bodies will be visible. There is some skill required even to catch a worm. The beginner will make a dab at the creature, which will at once retreat into its hole before being laid hold of. The old hand, on the contrary, treading lightly and holding the lantern in his left hand, will smartly place the second finger of his right hand on the hole in the ground in which the worm is lying, and so prevent the creature's retreat ; then with his first finger and thumb he will take hold of the worm, and, pulling gently, will force it to leave its stronghold. Both with half-retreated worms and eels it is always advisable to apply gentle continued pressure ; sooner or later the muscles relax, and out the creature comes. For freshwater fishing many gallons of worms are gathered in this manner during warm summer nights.

A large lobworm makes a fairly good bait for railing or whiffing for pollack, coalfish and bass. For this purpose it should be placed on the hook in the manner shown in the illustration. Red worms and brandlings, which breed in old manure, can be used as baits in brackish water for flat fish.

Earthworms of all kinds are the better for being kept in damp moss for a few days ; but they require looking over occasionally, and any dead ones should be removed. I have heard it said that brandlings, and, doubtless, other worms, toughen if the rubbings from a soft brick are mixed with the moss. The best method of removing dead worms is to have two receptacles ; let one of these be filled with fresh moss, and on the top of it place the stale moss containing the worms, live and dead. The live worms will burrow down into the fresh moss, while the dead ones will be left at the top and will be removed with the old moss.



LOBWORM USED AS A BAIT FOR RAILING OR WHIFFING

*Eels.* — The white belly-skin of a conger is suitable for fish-skin flies and similar whiffing baits. For pollack there are few more killing baits than a small eel about four or five inches in length. It may be either the fresh-water eel or a little conger. Where a streamlet flows down through a valley out on to the seashore and loses itself in rocky pools, there small eels are almost certain to be found. I remember sending on an old Scotch fisherman to just such a place to search for

bait. An hour later we joined him, and, seeing no can, pot, or pan of any kind in which the bait could be put, jumped to the conclusion that we should have to depend upon the creations of the tackle-maker, for that day at least.

'What, no bait, Sandy?' we said.

'Oh! aye,' was the reply, 'I have ferry many baits.'

'But where are they?'

'Oh, joost here,' and he slapped his trousers pockets with his hand! And sure enough, in company with some butter-fish, a piece or two of seaweed, and a plug of tobacco which the old man had forgotten, were about a dozen little wriggling eels with which we did great execution that afternoon.

Large pollack have such capacious mouths that it is not, as a rule, necessary to arm the tail of the eel, which, if placed on a good-sized hook in the manner illustrated on the previous page, will be found killing. If the end of the hook shank is not eyed nor flattened, a large shot must be squeezed on the gut or gimp just above the hook. The eel, which is partly threaded on the hook, is then brought up the shank until the shot enters its mouth. A turn or two of waxed thread round its nose *above the shot* will keep it in position. This is a most lasting bait, often catching many fish.

I have not the least doubt that the fish take the so-called red rubber sand eels for small congers, and have noticed that the natural bait invariably secures the largest fish. If no baits of the right size are obtainable, the tail of a larger eel can be used—about six or seven inches of it is sufficient. The flesh just at the cut should be removed for half an inch, the hook point inserted, and the tail brought up to the top of the shank, just as if a whole eel were being adjusted, where it may be caught on to a small hook placed half an inch above the large one. This is the method illustrated. But the plan recommended for the small eel can be followed; that is to say, if a flatted or eyed hook is being used, a piece of thread or yarn (waxed if possible) should be tied tightly round the eel skin above the eye or flat end of the hook, to keep the bait from

slipping down ; and to complete it neatly, turn over the sides of the skin, and sew them down to the eel with needle and cotton. This forms a very good bait—attractive, tough, and lasting—which will kill many fish. If the hook which is used is of the ordinary kind and is whipped on to the line, it is necessary to bite the shot on the gut or gimp just above the end of the shank, the eel skin being tied just above the shot. This is a much better plan with these baits than using the two-hook tackle recommended for lobworms. If the small upper hook is used, the eel is pulled off it at each run from a fish and is soon rendered useless. At the same time I have thought it almost necessary to illustrate this form of tackle, as it is one a good deal used. It is just possible that the eel tail is more attractive to the fish than the small eel, owing to its remarkable head.

EEL TAIL

If the fish are small or are biting shyly, then it is very easy to vary the tackle by adding a triangular or a second single hook. In any case there should be a swivel on the line just below the lead, for a very slight twist will cause the eel to spin, although, as I have said, the spinning is not necessary. I have seen it stated that the eel bait is all the more deadly if the tail end and about two-thirds of its body are skinned. I have never tried this experiment, having always been perfectly satisfied with the killing powers of the eel in its natural condition, in which state it is extremely durable.

Those who doubt the efficacy of the single hook for sea fishing may try the flight used by pike fishers, an illustration of which is reproduced here from the Badminton volume on Freshwater Fishing. In this case, if a portion of an eel is used, two inches or more of the skin

EEL-TAIL TACKLE

must be turned back and the bone and flesh beneath removed. Then the skin is pushed up again, to enable a piece of thread to be tied round it just above the end of the severed bone. That done, the piece of skin is again turned over and taken down towards the tail, its edge being neatly sewn to the sides of the bait. A capital artificial head is thus made. These baits can be kept in salt for a long time, and are a great convenience.

*Flounders.*—Flounders rank among the best baits for crab and lobster pots, and for such purposes are sometimes dried and stored away, being, of course, previously gutted. For lobsters in particular they should not be mildewed nor musty, so that a dry storage place is important. Very small flounders or other flat fish, somewhere about the size of a five-shilling piece, are first-rate baits, used alive, for large bass. They are obtainable in unlimited quantities from the shrimpers.

*Garfish.*—The garfish, which, as will be seen by reference to Chapter XI., is known by a large variety of names, is occasionally cut up when nothing better offers. A strip of its skin makes a very fair whiffing bait for pollack, mackerel and bass, and in small pieces it can be used near the bottom for whiting, cod, &c. It should be quite fresh for these purposes.

*Gentles* are the larvæ of the blue-

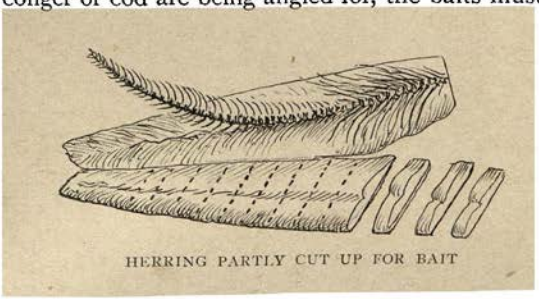
bottle and other flies, and are very easily bred in summer, when they are only too numerous at butchers' and tallow chandlers'. They are little used as sea-fish baits except for grey mullet, which occasionally take them in the brackish water of harbours. I have no doubt, however, that if any place was carefully baited with a quantity of these little creatures, several other varieties of sea fish could be educated up to eating them. In hot weather gentles turn into the chrysalis state very quickly unless kept in a dark, cool place in bran or damp sand, the latter being the best. It is not difficult to keep a supply of these creatures all through the winter. They should be placed in a wide-mouthed pickle bottle with common mould, corked up, and buried so far below the ground that the frost will not reach them. In hot summer weather, when gentles are turning quickly, they can be steamed and kept a few days ; but the live creature is probably the more killing.

*Gurnard.*—Pieces of grey gurnard are good bait for many kinds of fish, and the skin, either dried or fresh, is most useful. For whiffing or casting a bait can be sliced out of the belly of the gurnard. It should be well scraped and shaped to resemble the sole-skin fly shown on p. 126, but the tail end may with advantage be prolonged for half an inch and weighted with a shot, which helps to make it waggish and lifelike. The strip is of course bent over the shank of the hook and sewn round the edges, a piece of lead foil being inserted to make it swim upright.

*Herring.*—This is a very valuable bait for most kinds of sea fish, and is often obtainable either from the fishmongers or the fishermen. In America it is pounded up and used as ground bait. It is particularly valuable for this purpose owing to its being an oily fish, the highly flavoured oil globules spreading about and doubtless attracting the fish, though one would certainly expect them to rise quickly to the surface. The soft roe of the herring has been recommended as a bait for grey mullet, but is very difficult to keep on the hook.

I have so often seen amateurs mangling herrings which

they were cutting up for bait, that a short account of the process seems necessary. First chop off the head and tail of the fish; next split it carefully *down the back* with a *sharp*[1] knife, and lay it open on the bait board. The head, tail, and inside, together with the backbone, all mixed up, are a valuable addition to the ground bait if any is being used. After carefully removing the bone, ribs, and guts, which will all come away together, divide the two halves down the stomach, and from each half cut off diagonal pieces as they are required about a quarter of an inch wide. The illustration will assist the understanding of this method. The dotted lines show where the knife should cut the uncut portions. Of course, if large conger or cod are being angled for, the baits must be cut



HERRING PARTLY CUT UP FOR BAIT

larger. I generally put the hook in at the thin or belly end of the bait from the scales' side, then twist it round and put it again through the scales at the thick portion, the point coming out through the soft flesh. I have already referred to the use of bloaters as a bait for bass and eels.

*Horse Mackerel.*—This is a coarse kind of mackerel which is little used as bait, though, when flounders are wanting, it sometimes does service in lobster, crab pot, or in some prawn net. (See Chapter XI.)

*Lampreys* and *Lamperns.*—Lampreys are first-rate whiffing baits, equally as good as small eels, and should be used in

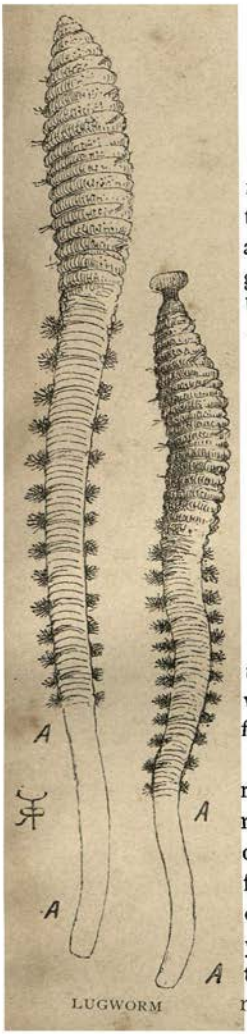
[1] Let me again say a pocket hone is simply invaluable when sea fishing, both for knife and hooks.

exactly the same manner. They have much the appearance of eels, but a very curious sucking apparatus takes the place of a mouth. There are several varieties of these creatures, some of which are found in the sea, while others appear to live permanently in fresh water. They are, or used to be, used alive on the long lines as baits for turbot, that fish being particularly partial to them. I have caught large numbers of the lesser lamprey in early spring, when they have been spawning on the shallows of a trout stream.

*Limpets.*—These humble little shell fish, which appear to pass aimless existences adhering to rocks, are a good deal used for baits in places where mussels are scarce or wanting. They are highly esteemed in the Orkneys, and are deemed most serviceable if scalded out of the shell, but not boiled. I confess I never had much respect for these shell fish until I learnt from a scientific work that they were *cyclobranchiate gasteropodous* molluscs of the genus *Patella*. The limpet is cyclobranchiate because his gills or branchiæ form a fringe round his body between the edge of the body and the foot; and he belongs to the order of gasteropods because his distinguishing characteristic is the broad, muscular, and disc-like foot which is attached to the surface of his stomach. In fact, he walks on his stomach, a proceeding which is rarely seen.

If the rock be soft, the limpet digs himself a little pit in which he rests, making his way therefrom for a few inches to feed on various kinds of seaweed. As a rule, these curious creatures do not move except when covered by water; but I once saw one taking an airing, and a very curious performance it was. The shell was raised about an eighth of an inch; a tiny feeler peeped out, waved to and fro and felt about as if to ascertain if the next twenty-fifth of an inch of rock was suitable for progression. After the limpet was satisfied on this important point, the edges of its body began to work slowly all round the shell, and a step forward was made. And that was the locomotion of a gasteropod, with whom time was apparently

no object. When the limpet has made up its mind to stick in one place, it shows great determination to that end. It has been recently calculated that it requires a force of about 60 lbs., or upwards of 2,000 times its own weight without its shell, to pull it away from the rock. It is, however, easy enough to dislodge these strong men among shell fish if you know the right way. Take them unawares and give them a sharp tap, and they tumble down as if shot; or gently insinuate a knife under the shell before they have time to crouch down on to the rock.



LUGWORM

Limpets are a good deal eaten by the poorer classes in some parts of Ireland and Scotland, and, as baits, are used on the haddock lines when, as I have said, mussels or better baits are not obtainable. The soft part of a limpet is considered a very fair bait for sea bream; by reason of its softness it should be cut out and placed in the air to dry for an hour or two before being used. A whole limpet threaded up the shank of a hook, followed by a lugworm, makes a very killing bait for cod-fish. It is illustrated in Chapter XIII.

*Lugworms*, which are sometimes, but rarely, called lobworms, take the highest rank among baits for sea fish. They are dark reddish-brown in colour. Their form may be identified from Mr. Pritchett's careful drawing. They exude a nasty yellow fluid which stains the fingers, and the narrow end of them, which should be nipped off, contains little else than sand.

A lugworm lives in sand, through which it eats its way, extracting any available nutriment, and throwing up above the surface the sand which has passed through its alimentary canal. It often grows three or four times as large as the dew or lobworm of our gardens.

Lugs are obtained without much difficulty by digging wherever the casts are noticed; but be very smart in pouncing upon them when they are thrown up, for they bury themselves in the sand with great rapidity. Mr. Wilcocks has stated that these baits must never be cut, because the liquid interior itself runs out, leaving nothing but the empty skin; but as I have said, the sandy end is nearly always pinched off by the fishermen in the manner I have directed. Lugworms can be kept for some time in a cool place in a box of wet sand or seaweed, but it is very necessary to look them over daily, for a dead one left among them for a few hours turns putrid and quickly kills the rest. These baits are so killing for bottom-feeding fish that it is quite worth while going to some expense to obtain them; and if they are not found in the district where one may happen to be fishing, it is good policy to send a telegram or letter to the nearest part of the coast whence they may be obtained by parcels post or otherwise.

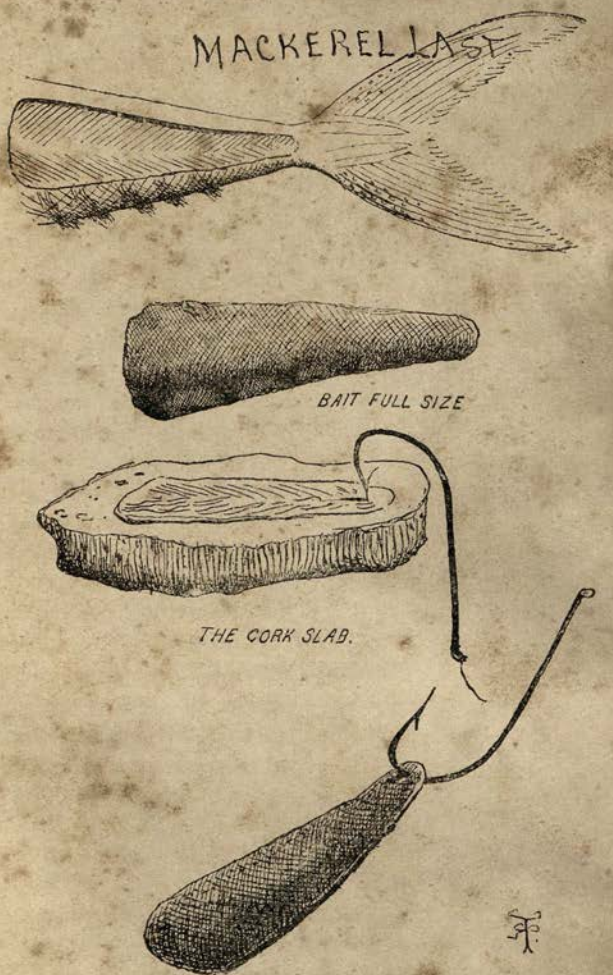
While this book was in the press I received the following interesting notes concerning lugworms from Mr. Edward Hanger, of Deal. 'There are two kinds of lug here, one the large yellow-tail lug, so-called by our fishermen, and the other the ordinary or common black lug. The yellow-tail will keep alive much longer than the common lug, and is the best for bait for whiting and cod. The common lug is best for all kinds of flat fish, because the large lug will choke small hooks up. The yellow-tailed lugs are very difficult to dig up, as they generally lie well down into the sand. When rough and cold weather sets in the fishermen sometimes squeeze the inside out from the tail up through its mouth and then hang them over a line, and by this means a man has bait when the weather breaks up.'

The *Mackerel*, which is more particularly described in a subsequent chapter, is very valuable for purposes of bait, and can be used in a variety of ways. In the first place, a strip of mackerel skin is the best of all baits for mackerel. Any thin, triangular piece of skin will answer the purpose, but the regulation last or laske, which is best of all, is cut in the following manner. With a sharp knife make a semicircular incision 1½ or 2 inches below the root of the tail, and a slice downwards towards the tail, cutting out the piece shown by the dotted line in the illustration. Half this piece will be silver, the other half of the darker colour found on the back of the mackerel. It is the toughest and best piece of skin for the purpose that can be found in the mackerel. But it must be cut thin—that is essential. Next, lay it scales downwards on a piece of cork and push the point of the hook through the narrow end as illustrated. This little strip of skin will quiver and play in the water and look exactly like a small herring or sprat. No attempt should be made to cover the shank of the hook.

When shoals of very large mackerel are about, the laske may be 2½ inches or even more in length. But generally speaking 1½ inch is a good length. In clear water and calm weather both bait and hook should be smaller than on dark rough days.

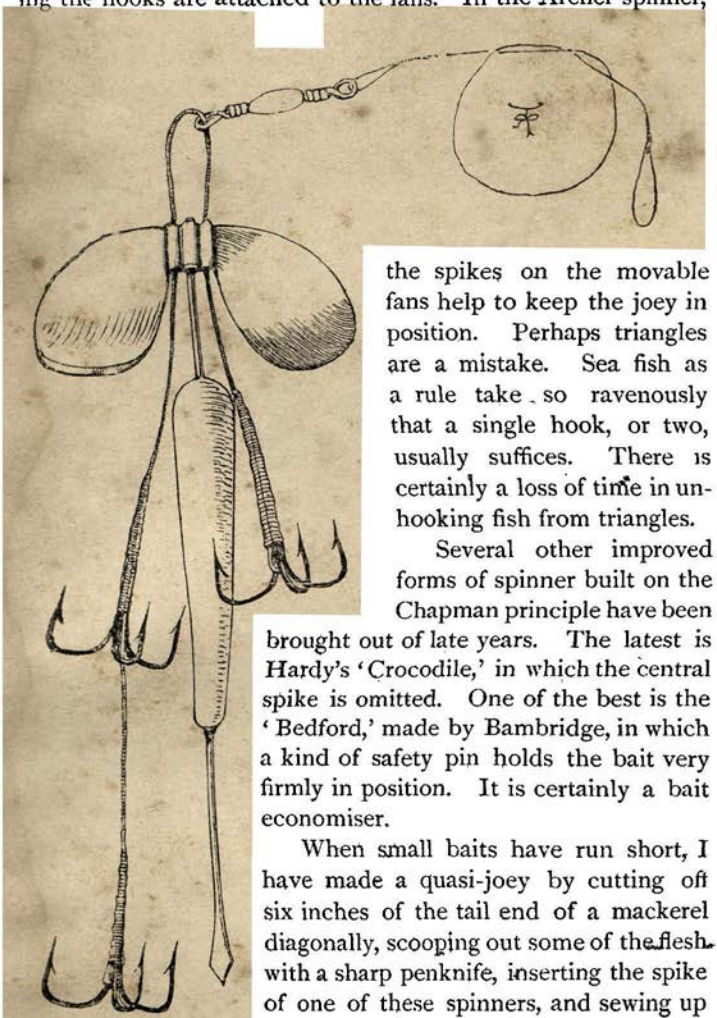
No. 16 (2/0 Redditch scale) is a good general size for a mackerel hook, but No. 13 (2 Redditch) will be best when the fish are biting shyly. Professional fishermen use still larger hooks, simply because they are easily and quickly removed from the mackerel's mouth. But in light breezes these large hooks fail, without much doubt scaring the fish.

Young mackerel about five or six inches long, called in some places 'joeys,' make excellent baits for bass and pollack. I have tried them with much success on the Chapman spinner, an excellent form of which is illustrated. It should be noted that the pull of the line comes direct on to the hooks, so that there is no tendency to drag the fans out of the mouth of the bait as




MACKEREL LAST. (How cut and placed on hooks)

there is in other mountings in which the swivel and gimp bearing the hooks are attached to the fans. In the Archer spinner,



IMPROVED CHAPMAN SPINNER

the spikes on the movable fans help to keep the joey in position. Perhaps triangles are a mistake. Sea fish as a rule take so ravenously that a single hook, or two, usually suffices. There is certainly a loss of time in unhooking fish from triangles.

Several other improved forms of spinner built on the Chapman principle have been brought out of late years. The latest is Hardy's 'Crocodile,' in which the central spike is omitted. One of the best is the 'Bedford,' made by Bambridge, in which a kind of safety pin holds the bait very firmly in position. It is certainly a bait economiser.

When small baits have run short, I have made a quasi-joey by cutting off six inches of the tail end of a mackerel diagonally, scooping out some of the flesh with a sharp penknife, inserting the spike of one of these spinners, and sewing up the edges of the skins together; or, if a

needle and silk have not been handy, binding round the upper part of the bait with white silk or thread. This operation should be neatly performed, and takes some time in the doing ; so it is well to be prepared with half a dozen baits before fishing begins. I have sometimes made a very successful spinning bait by cutting a long strip of mackerel-skin a quarter of an inch or a little more in thickness, binding one end of it on to the head of the Chapman spinner, and winding the rest of it round the spike, fixing it firmly at the lower end with thread or silk. This bait spins brilliantly, but is not to be made by those who have not the complete use of their fingers.

ARCHER SPINNER

On or near the bottom, pieces of mackerel are excellent baits. The mackerel should be split down the back, in the manner described for herring, but the diagonal slices cut from each side are as a rule too large for any except fish of considerable size. There are very few fish which will not take mackerel bait ; congers, in particular, are very fond of it.

*Mudworm* is the same thing as ragworm, which has a paragraph to itself later on.

*Mussels.*—The welfare of some thousands of people depends on these shell fish. There is no fish in the sea which will not take them, and they are particularly valuable for haddock and cod fishing. There are mussels and mussels. The smaller species, which are found in salt water, are by no means the best for baits. Far better are the large mussels which grow in the brackish water of estuaries or among the rocks in inlets of the sea where the water is tempered by the inflow of many

rivers. The finest, as I said at the beginning of the chapter, are sold for edible and angling purposes at the shell-fish shops. On parts of the Yorkshire coast, as I have before noted, the fishermen actually use mussels 'made in Germany'! Such is their ignorance of the law that no legend to that effect is marked on the shells. Thousands of sacks full of these invaluable fish are sent over to Hull, and distributed along the coast. The fishermen keep small quantities in baskets weighted and placed among the rocks, but the sea water of the east coast is too strong for them, and they do not live very long. When fishing some years ago in Broad Bay, near Stornoway, we could only get mussels by sending right across the Island of Lewis to the sea-lochs of its western side. Those we obtained were large, and lived a long time in pools among the rocks. The sea in that part of the world is less salt than on our east coast.

Sometimes mussels are scalded or boiled, or put in the oven for a few minutes, or placed in the sun for an hour, either of which processes opens the shell and turns the contents into a more or less solid mass easily adjusted on the hook. But it is far better to use these baits untreated by heat. Sometimes they are opened and salted, but I cannot commend the practice.

For opening mussels there is nothing better than an ordinary oyster knife. If a clasp knife is used, it should have the spring catch at the back, which keeps the blade from closing on to the hand. A small mussel is a difficult thing to open; large ones should be treated in the manner following—the Scotch method. The end by which the mussel adheres to rocks, &c., is pointed and thick. The upper end broadens out, flattens, and is semicircular. One side has an almost straight edge, the other being curved. Hold the mussel in the left hand so that the narrow end rests in the palm of the hand, the beard and straight edge pointing away from you. Rest the flat end on the joint of the first finger, and place the thumb on the upper shell above it. With the thumb, gently push the

upper shell to the left, holding the lower shell firmly on the first finger. The shells will slightly slide apart and disclose an opening for the knife. Then insert the point of the knife and

HOW TO OPEN A MUSSEL

pass the blade between the body of the fish and the broad, flat portion of the lower half of the shell; this will sever the one side of the powerful muscle which holds the two shells together, and the rest is easy. Run the knife round the edges to divide the various filaments. Then, *and not before*, prise the shells. Cut the remaining muscle which adheres to the upper shell, fully open both shells, and the bait will be seen lying unmangled in the lower one. The two important points to be observed are that the shells must be first slid apart, and that no attempt to prise them open should be made until the muscle which is clearly shown in the illustration, and marked A A, has been severed. Sport often depends in a great measure on the careful opening of the mussel. If badly opened, these baits cannot be made to stick on the hook.

But now comes, to the novice, a tremendous difficulty—to put this soft mass, which appears of the consistence of liver, on the hook so that it will remain there. Lying almost hidden between the two halves of the mussel will be seen a little, dark brown, tough, leathery tongue (B), and through this the hook should be first placed. It should next be passed through the bait from side to side, and finally through any of the tough filaments, the round, hard, white piece of muscle which was cut when the knife first went into the shell being put on the point of the hook last to keep the rest in place. The knack of it all is not acquired in a day. But the difficulties are not great if the mussel has not been mangled in the opening. On hand and throw-out lines mussels are often tied with pieces of wool or thread. On long lines the Scotch fishermen cover each mussel with a fleck-like piece of wool spread out and brought over the bait like a fine veil. I never do this, for I find that if the mussel is carefully opened and properly placed on a suitable hook, it will stand being cast out, and with the fine tackle I use I can nearly always feel a bite and strike the fish before the hook is robbed. Professional fishermen, no doubt, so tear the mussel in placing it on their coarse large hooks that tieing on seems almost necessary,

particularly for long lines on which fish hook themselves. But there is no general rule on the subject even among professional fishermen.

A very interesting report on mussels was made by a committee appointed by the Secretary for Scotland, in 1889. Nearly all the 50,000 fishermen of Scotland use these baits during some part of the year, and it was a very curious fact that during three years' haddock fishing at Eyemouth the weight of fish caught hardly exceeded the weight of mussels used. The fish weighed 4,665 lbs., the mussels 4,022 lbs. The cost of the mussels was one-eighth of the value of the fish taken with them. There was no question as to there being a growing scarcity of these valuable baits, the fishermen often having to send many miles for them, their cost, including carriage, being as much as 50*s.* a ton. There seems no reason why the Scotch mussel beds should not be generally available for bait at moderate prices if properly managed, stringent regulations being required to prevent them from being overworked. So prolific is the mussel that it is only necessary to give the beds on which it has been found a fair chance, under efficient protection and regulation, to insure these fish reproducing themselves in almost unlimited quantities. Under favourable conditions the mussel attains a size of 2 to $2\frac{1}{2}$ inches in about three years.

There are two methods of cultivating mussels. One on the bed system, which is common in Scotch and English waters; and the bouchot system, as practised in France, the mussels being grown on open wattle fences placed in the water. This method has been attempted without much success in Scotland. It has been asserted that mussels grown on bouchots are not a good colour for bait, being more suitable for table purposes. So far as my own experience goes, one colour is about as good as another, only the exceedingly pale mussels not being relished by the fish.

Two or three years ago some Nairn fishermen placed a few tons of minute mussels in a sheltered tidal bay with a sandy bottom. The seed took hold and rapidly grew to a large size

A new lot of seed was brought from the Bay of Findhorn, a noted mussel bed. It took root and, at the end of about two years, spawned. The experiment was regarded as a great success. Fishermen who use the home-cultivated baits are believed to catch many more fish than do the men who use imported mussels. This is a patriotic belief, so let it stand.

Among other uses of mussels is that of making oyster sauce in London restaurants and sundry hotels, both rural and urban. I have known several people made ill by eating these shell fish, and regard them more favourably as baits for fish than as food for human beings. Being anxious to look into the harmfulness or harmlessness of mussels as food, I once put this question to a little fisherboy at Hastings: 'Did you ever know anyone ill after eating mussels?'

He said 'No' at first, but seeming to hesitate, I repeated the question. '*Only* grandmother,' he added.

'And what happened to her?' I asked.

'Oh, she swelled up a bit.'

There is something very delightful about that 'only.'

*Oysters* of the commoner kinds make very good baits for most kinds of fish. Not that I suppose a cod or haddock would strongly object to a well-flavoured native, particularly if he had not to pay for it, and the bacteria of typhoid could be guaranteed absent. If oysters are deemed too expensive, their beards can be used.

*Pilchards* are among the oiliest of fishes, and much valued on that account either as bait or ground bait. So far as Britain is concerned, they are not generally found very far beyond the coasts of Cornwall and Devon. The inside of a pilchard, though somewhat difficult to keep on the hook, will attract almost any fish that is to be found in the sea. It is a particularly good bait when mackerel fishing at anchor, in midwater or near the bottom, and there is nothing better in the ground-bait net. If the flesh is used, the pilchard may be cut up in exactly the same manner as the herring, but the scales should be very carefully scraped off while it is still fresh. If it has dried at all, it should

be soaked before this is done. But it is not a good thing to cut the bait into pieces until just before it is going to be used, for the oil which bleeds from the severed portion is, as I have said, very attractive. In Cornish waters a long strip from the side of a pilchard is a favourite bait for large pollack. Begin the cut by taking the whole width of the tail, together with some of the cartilage, and cut away gradually, tapering to a point near the shoulder. Some men start the cut at the shoulder. The hook should be stuck through the piece of cartilage at the tail end, the remainder of the bait streaming out and waving about in the current. Pilchards are sometimes salted down for use as baits, but when this is done they should be soaked in fresh water for some hours before being used.

RAGWORM

*Prawns*, though excellent baits for almost all sea fish, are too scarce to be commonly used. They are most deadly if placed on the hook alive, when pollack and bass will take them readily. Peeled (unboiled) they are, like shrimps, a capital bait for mullet, flat fish, eels and smelts. Sometimes they are used boiled, but this I consider a mistake. If a live prawn is used the hook should be simply put through its tail.

*Ragworm, Pollack Worm, or Mudworm.*—The drawing of this curious and not too presentable creature will serve to identify a very valuable worm. Its favourite haunts are the odorous banks of mud in estuaries and harbours. In such places ragworms frequently swarm in thousands, and a quantity will be dug for a few pence by any fisherboy. There is a larger kind of ragworm which is found among the rocks far away from the harbour mud. These are comparatively scarce, and are the same as, or akin to, the worm which I have described as making its abiding place at the extreme end of the whelk shell inhabited by the hermit crab. There are not a few places on the South coast where these

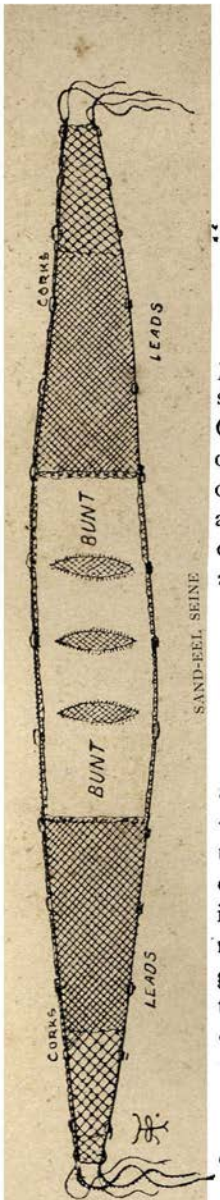
baits are unobtainable, and in many a likely looking spot I have searched for them in vain.

The best way of keeping ragworms is to put them in a shallow wooden box with a cover. They must on no account be heaped up together, and if placed in a small tin should be mixed up with seaweed. For keeping any quantity a large box is required, well pitched inside. A little fresh sea water should be flowed over the worms every day. A convenient-sized box for taking out fishing is one about two or three inches deep, ten inches long, and six inches wide. The worms should be kept at all times in as cool a place as possible and out of the sun, the large ragworms perhaps keeping best in sand or seaweed. The placing of these worms for a night in powdered saltpetre or salt has been advised. I have not experimented with this process, which kills the worms and is supposed to toughen them.

TWO-HOOK TACKLE

There are two ways of using ragworms. Two or three may be hooked through the head and used as a whiffing bait; or they may be placed on moderate-sized hooks and fished with a paternoster near the bottom. There they will take flat fish, eels, smelts, mullet, and, in fact, all kinds of fish. Large ragworms are said to eat smaller ones. Two or three small hooks one above the other form a good tackle on which to use these worms. Catch each hook once in the worm, the head being on the upper hook.

*Ray's Liver* is a noted bass bait in certain places: to wit, the mouths of harbours or the adjoining shore, where a good deal of offal from fishing boats, &c., finds its way into the sea. It is extremely unpleasant stuff to fish with, the more so as it is considered none the worse for being a little 'high.' A few pounds of it placed in a sack and lowered into the water from the rocks is believed to attract bass, and I have no doubt that is the case. It can be obtained from the trawlers.



SAND-EEL SEINE

*Ray's Skin* in strips is used in the same way as mackerel-skin, bass-skin, gurnard-skin, &c.

The *Sand-Eel* or *Launce* is not only a valuable bait, but also a very important source of food to most species of sea fish. There are two varieties, the lesser and the greater. It is known by numerous local names, which are occasionally used in a loose and very perplexing manner. In Scotland the greater sand-eel is termed *horner* or *horn eel*, in Cornwall the *great lant*; the St. Ives fishermen calling adult eels *snake bait*, and the young ones *naked bait*; in Ireland (co. Down) they are termed *snedden*. The lesser sand-eel is called the *lizard bait* at Land's End, and the *wriggle* in Sussex.

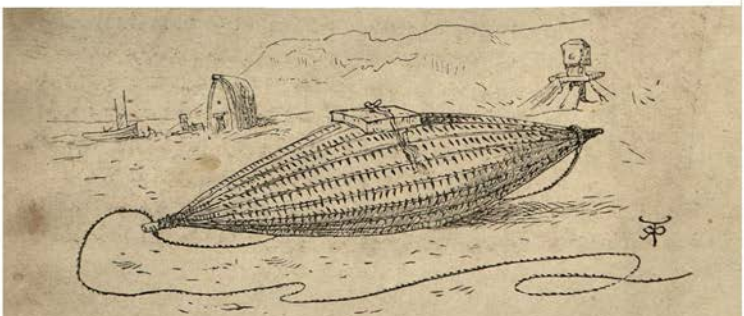
Sand-eels, which, by the way, are capital eating, except in the winter soon after they have spawned, are generally caught either by digging or raking them out of the sand at low water, or by enclosing them in seines which are specially made for the purpose. The sand-eel seine—a Channel Island institution—consists of a strip of netting (sometimes as much as seventy yards in length) of various sizes of mesh, the mesh decreasing from the sides towards the bunt or middle, which is of calico. In it are some gores of exceedingly fine netting, placed there to allow the water to pass through it. This calico, some thirty feet in length, cut fuller than the rest of the net, forms a sort of bag which takes the little fish when the net is drawn on shore. The netting immediately next the calico, which, like the

COURGE IN TOW. 29″ × 9 INS.

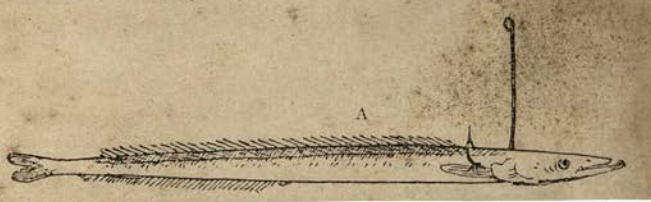
THE LID

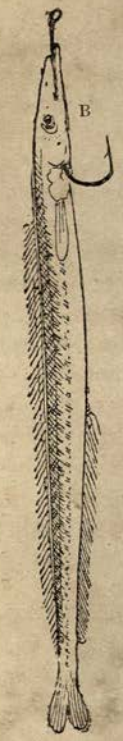
calico, should be gathered to make it bag, is of one-inch mesh, the wings on the outside being of three-inch mesh. The seine may be about eighteen feet deep in the centre, tapering off to five feet at the sides. This net—the measurements given are those used by professional fishermen—is unnecessarily large for the amateur.

When caught, the sand-eels should be kept alive as long as possible in wickerwork baskets of the form shown in the illustration, called courges, and much used for towing after boats. These great conveniences, in which shrimps and small flat fish can also be kept alive, can now be obtained from the Plymouth tackle-makers. Used alive the sand-eel is one of the most



COURGE




BAITING WITH THE LIVING SAND-EEL.

deadly baits known for pollack and bass. It should be placed on the hook in the manner shown in the illustration (fig. A) if the tidal current is at all strong; but in slack water it is perhaps best hooked through the nape of the neck, as shown in fig. B. Dead sand-eels are good whiffing baits, and it is not as a rule necessary to spin them. The whiffing or trailing tackle used for small congers or silver eels, shown on pp. 87–90, carries the sand-eel exceedingly well. But, should the fish be very shy and a lively spin be deemed desirable, a Chapman spinner, small in the fans and long in the spike, is as good as any that can be used, but it must be fitted with hooks strong enough to hold the fish we are seeking.

Small pieces of sand-eel are also good baits for most bottom-feeding fish. For whiffing purposes they can be kept for an almost indefinite period in the compound known as King's Preservative, or a mixture of methylated spirits, glycerine, and water in equal parts. It is as well after the first fortnight to change the liquid, which gets charged with oil.

The *Sea Loach*, or *Rockling*, is a useful little fish of the cod family, found among the

rocks on some parts of our coasts, and is a good whiffing bait for pollack, &c.

*Shrimps.*—Shrimps are admirable baits for flat fish and pollack, particularly if used alive, when the hook should be passed once through the tail. They can be obtained from the shrimpers, who will of course save a few from the boiling pot for a small consideration. They are easily kept alive in a sand-eel courge, or in any other finely woven basket. Boiled shrimps, peeled, are sometimes used as baits. It is far better, even if they are not alive, to use them unboiled.

*Smelts.*—These delicate little fish make admirable baits, and may be used in exactly the same way as sand-eels. In the Solent a piece of smelt is a very favourite bait for whiting, but is not, I believe, much used for the purpose in other places. I have devoted a little space to these fish in a subsequent chapter, and there is also a reference to them in connection with fly fishing in the sea.

*Snails.*—The common or garden snail is a fairly good bait for whiting, pout and bream, and I have heard of it being used on long lines when nothing better was to be obtained.

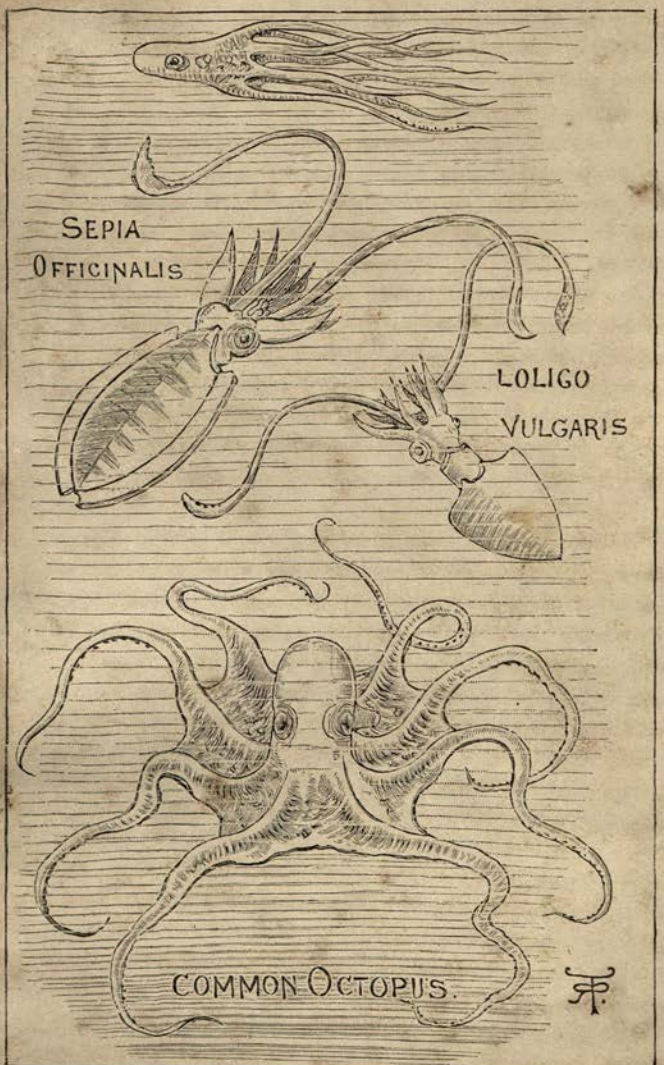
The *Spotted Gunnel*, or butterfish—a term which is equally applied to the blennies—is a capital whiffing bait for pollack, and can be either simply trailed on the eel tackle (p. 87), or mounted on spinning tackle such as I have recommended for small mackerel on p. 98. It is found in small pools under seaweed or stones, between high and low water mark. It is slippery, and difficult to catch with the hand. Being long-lived it is a capital live bait. It is common in the Orkneys (where it is called swordick) and on the west coast of Scotland. It is found on the Devonshire and Cornish coasts, and is plentiful all round Ireland. It is a long, eel-like little fish, with nine or more black spots encircled with white rings on the upper surface of the back, and in its habits resembles the freshwater stone loach. Sometimes butterfish are taken with fine float tackle in pools among the rocks, the bait being a piece of shrimp or the soft part of a limpet. I have noticed that they

are most abundant in just those places where one finds the small eels—where freshwater streams run into the sea. Their killing powers as whiffing baits are supposed to be increased by removing their skin.

*Sprats*, which in Scotland are called garvies, and are not immature herrings as some people suppose, in their young state are known as whitebait and form exceedingly good baits for most sea fish, particularly cod. Any fish which will take herring or pilchard will take sprat, but if given the choice of the three, would probably give the preference to the pilchard. Unfortunately, sprats are not much caught except during the autumn, when they are landed in great quantities on many parts of our coast, through the instrumentality of both seine and drift nets, in which latter the little fish mesh themselves. At Deal there is a very large *sardine* manufactory, the workpeople of which are at their busiest during the *sprat* season.

*Squid, Cuttle, and Octopus.*—Those living demons of tropical seas, with descriptions of which Jules Verne has curdled the blood of the youth of the nineteenth century, are of one family with the octopus, the beautifully coloured cuttlefish or sepia, and the little squid or calamary of British waters. All three are shell fish, but, oddly enough, carry their shells inside them, and not on their backs, as do their near kinsmen, the pearly nautilus and the argonaut or paper nautilus. The argonaut, by the way, does not come to the surface and hoist two broad tentacles as sails, as the ancients, followed by Byron, Pope and Montgomery, would have us believe. It swims like the rest by expelling water and shooting out its legs. All these extraordinary creatures have one common peculiarity: their limbs grow from the place where their necks ought to be, and thus they may almost be said to walk on their heads. For this reason they are termed cephalopoda.

The octopus, squid and cuttle have no outer shells, and protect themselves from their enemies by expelling from a little bag an inky fluid which discolours the water and hides




CUTTLE (*Sepia officinalis*); SQUID (*Loligo vulgaris*); AND OCTOPUS (*Octopus vulgaris*)

them. Most of the head-footed ones—and the octopus in particular—have the power of changing colour at will, making themselves almost invisible when clinging to rocks.

Of the octopus (poulpe or devil fish), there are many species. As the name indicates, it has eight feet, arms, or feelers, which are united near the body by a web, just as the toes of a duck are joined together. On each feeler are two rows of suckers, a hundred and twenty of them to each arm, so that the fish not only has the power of seizing its unfortunate prey by enclosing it in its hideous arms, but, by merely touching it and bringing its suckers to bear, can hold it fast. It is a night feeder, hiding during the day. Mr. S. Hanley, the conchologist, when wintering in Italy, observed some octopods in Leghorn Harbour, the tentacles of which were about four feet in length. They were greatly feared by the divers and bathers of the place. In 1879 a Government diver named Small was caught by an octopus at the bottom of the sea, in the tidal portions of the river Mogne, Melbourne. Fortunately, he had one arm free, and drawing an iron bar towards him with his foot, he successfully fought the monster—which measured nearly eight feet across—and was pulled up to the surface in a state of great exhaustion and terror at the end of about twenty minutes.

With their powerful beaks these creatures can break the shells of crabs and lobsters, but are themselves fed on by many kinds of sea fish, particularly congers. Quite a horrible tragedy once took place in Havre Aquarium. It was graphically described by Mr. Henry Lee, F.L.S., in his work on 'The Octopus, or the Devil Fish of Fiction and Fact.' The curator of the aquarium threw the octopus into a tank of congers. It at once perceived its danger, and endeavoured to conceal its presence by stretching itself along a rock the colour of which it immediately assumed. Apparently seeing it was discovered, it changed its tactics, and shot backward in quick retreat, leaving behind it a long black trail of turbid water, formed by the discharge of its ink. Then it fixed itself to a rock with all its arms surrounding and protecting its body, presenting on all exposed sides a

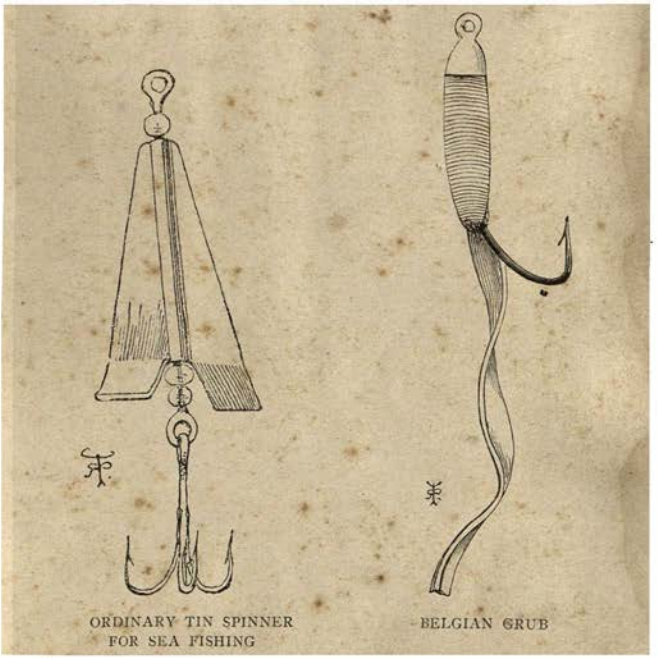
surface furnished with suckers, and awaited the attack of its enemy. A conger approached, and, having found a vulnerable place, seized a mouthful of the living flesh. Then, straightening itself up in the water, it turned round and round with giddy rapidity until the arm was with a violent wrench torn away from the body of the victim. Each bite of the conger cost the octopus a limb; finally nothing remained but a dismembered body, which was devoured by some dogfishes.

In aquariums octopods have been seen to build themselves little grottos of oysters, where they dwell in peace and happiness during the daytime, wandering at night, sometimes leaving their tanks and travelling into others on voyages of discovery, adventure, and depredation. In some parts of the world they are attracted by white shells or stones spread on the bottom of the sea, and rows of jars which act as traps are laid in which they hide and are captured.

The chameleon-like habit of changing colour when irritated is one of the most remarkable features of several members of the cephalopoda. I once happened upon a very fine specimen of octopus in a rocky pool on the Welsh coast, where it had been left by the receding tide. It was a bright red colour, and, on my touching it with my crab hook, purple spots began to show on the red. Interfering with it still further, the red ground gradually died away, and it became a piebald yellow and purple creature. Then I thought I would put it in a prawn net and take it home, whereupon it straightway turned the most ghastly livid colour imaginable, assuming the pallor of death. I had hopes of keeping this strange thing alive, and presented it with a tenement in the shape of a bucket of salt water; but it received so many pokes and touches from various people to bring out those chameleon-like changes, that during the night it gave up the ghost.

Of much greater importance from an angler's point of view is the common squid or calamary (*Loligo vulgaris*). It is sometimes called the pen-and-ink fish, on account of its ink bag, and the delicate elongated shell which is found within it. The

large pollack; but better still is one of black rubber tubing, double as large as that shown in the engraving. These baits are made in various colours—black, white, red, or green; sometimes one colour is best, sometimes another. Cod, which will take them when fished near the bottom, appear to prefer the white rubber; while coalfish and bass are perhaps more often taken on the grey, green, and black. The red of the



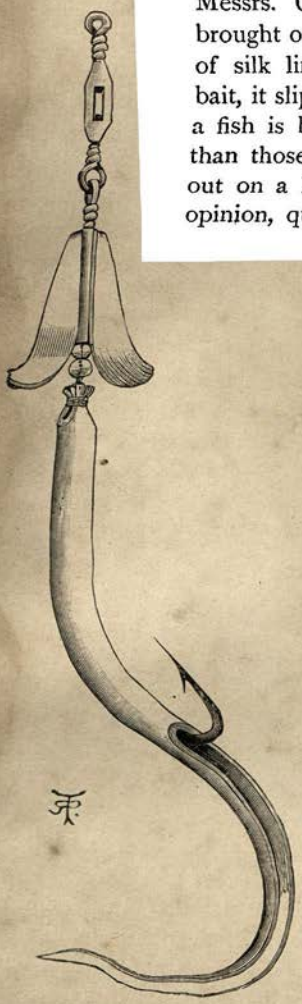
ORDINARY TIN SPINNER FOR SEA FISHING

BELGIAN GRUB

vulcanised and the black of the natural rubber are, so far as my experience goes, a long way the best for pollack.

Coming to baits which are more familiar to freshwater fishermen, among the best is undoubtedly the phantom minnow. I have caught a quantity of large pollack on a phantom deep red in colour and about from three to four inches in length. A blue-backed phantom with a silver belly is a good bait for

bass, but not so good as the natural bait. Messrs. Carswell, of Glasgow, have recently brought out a patent improved phantom made of silk lined with rubber. Like the Devon bait, it slips up the line out of the way when a fish is being played, and has a better spin than those in which the shoulder triangle flies out on a length of twisted gut. It is, in my opinion, quite the best phantom made. As

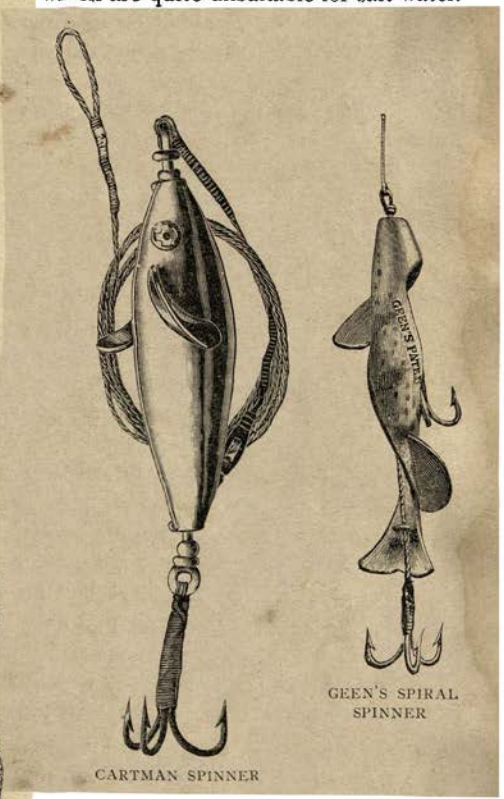


RUBBER EEL WITH BABY SPINNER

CARSWELL'S PHANTOM

THE CLIPPER
(tassel can be omitted)

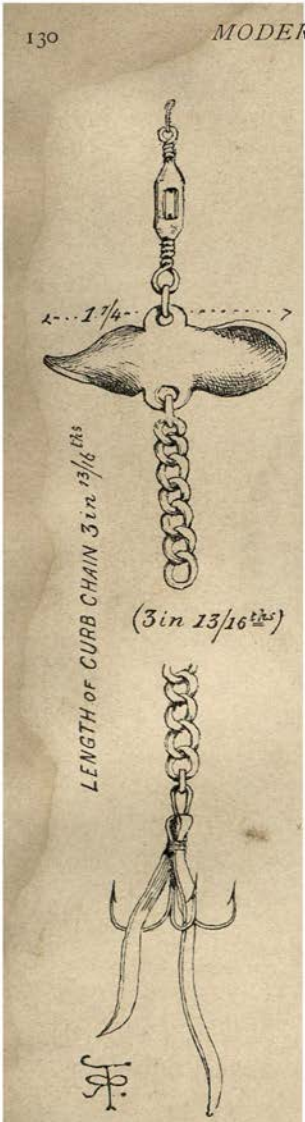
a rule, these freshwater baits are not properly mounted for sea fishing, the triangles are not strong enough in the wire, and steel swivels are commonly used which are quite unsuitable for salt water.




CARTMAN SPINNER

GEEN'S SPIRAL SPINNER

There is an excellent bait which has caught me many a fish both in fresh and salt water—bass, pollack, pike, trout, perch and salmon—and that is Gregory's Clipper. One great advantage it has is that it

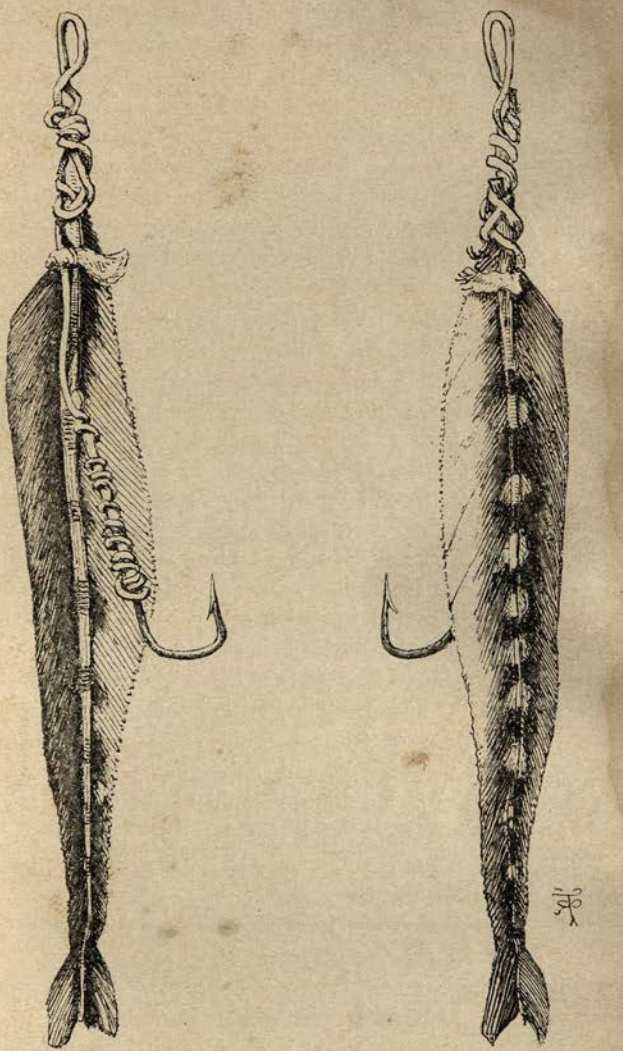



CURB CHAIN BAIT

revolves on the gimp, while the triangles do not revolve. In many baits the triangles spin round with great speed, and one is very apt to prick fish without hooking them. Speaking generally, sea fish take a bait so ravenously if they come at it at all, that a single hook is usually quite as effective as a triangle. The best clippers have golden backs and silver bellies.

A comparatively new bait, in which, also, the triangle does not spin, is the Cartman spinner. It spins easily and rapidly, and has the advantage, for pollack fishing, of containing its own lead. It is usually adorned with a bunch of red wool round the triangle. I have had some made specially for me with the omission of this wool and the internal part of the bait gold-plated, which greatly adds to its attraction. Made in this way, I am quite sure it would be an excellent bait for sea trout, both in the sea and fresh water. Mackerel, of course, take small sizes, and it certainly should be good for bass. Its particular value is in dead water or when whiffing has to be carried on with the tide, for it spins with the least provocation. This good quality it shares with the well-known and really excellent spiral bait invented by Mr. Geen.

A very novel bait was sent me



A FEATHER FISH

recently by a friend, a great bass fisherman, who assures me that it has been most successful in his hands, and that he never intends to use any other artificial bait for whiffing. It is not so suitable for casting. It simply consists of a piece of curbed chain headed with fans similar to, but rather stouter than, those on a Chapman spinner. It is shown life-size in the illustration on p. 130. Doubtless its flexibility and the sparkle of the links make it so exceedingly attractive. Anyone could construct a bait of this kind for himself, but I understand that Mr. Walbran, of Leeds, is about to patent it.

The large feather baits perhaps come within this part of the subject, but by reason of their material let us honour them with the name of flies, and give them place in the next chapter. They are most successfully used for pollack and coalfish, and at times bass take them greedily. The artificial fly made of fibres obtained from the tail of the dogfish, also described in the following chapter, should be specially noted. It has a great reputation among the fishermen in the Orkneys.

Another very remarkable bait, sent by one of my many kind correspondents in sea-fishing matters, and my long list is finished. It is a capital imitation of a small fish made out of the wing feather of a bird. It is shaped with scissors and afterwards painted, and is capable of much variation according to the fancy of the maker. The illustration is another of Mr. Pritchett's drawings of the actual thing—a bait which has, maybe, taken not a few lythe and saithe off the wild coasts of the Orkney Islands. No doubt it could be fitted more neatly with hook, swivel, &c., but it could hardly be made more effective. One of my long-shanked Salmo-irritans hooks might be useful for this bait.

Those who possess the least ingenuity need never be at a loss for a bait for sea fishing, or, at least, for so many of the sea fish as will take an artificial bait. A piece of white rag on a hook, the stem of a tobacco pipe threaded on the shank, a three-penny-bit hammered out with a hole bored in it, a teaspoon or dessertspoon bowl bored with a hole and decorated with a hook

or two, a piece of tin from a sardine box cut to the shape of a fish and given a twist to make it spin, a piece of indiarubber band or tubing, a few feathers and wool from an old rug—these and many more simple and easily obtained materials can be made up into killing sea-fish baits. The things that anglers should never be without are hooks and leads of various weights, swivels, gut, and gimp. With these, he ought to be able to make almost any tackle he may require, perhaps not so neatly as that which he can buy, but certainly more lasting. Not that I wish to disparage bought tackle, though the fastenings-off are not always the best, and hooks not always tested. But in outlandish places, hundreds of miles from tackle-shops, the exercise of a little ingenuity and trouble on the part of the angler will often make all the difference between a good day's fishing and a bad one, between a full and an empty creel.

## CHAPTER V

### FLY FISHING IN THE SEA

FLY fishing in the sea is a lottery. There is more of it than most people suppose, but there is no kind of sea fishing more uncertain. Occasionally, takes are reported which would fill the salmon or sea-trout fisher with wonderment ; but the blank days are enough to make angels weep.

We need not concern ourselves to consider in what light a sea fish regards an artificial fly, or the thing that we call a fly. From the ordinary trout fisher's point of view there is no fly fishing in the sea, for there are, generally speaking, no natural flies to be imitated, except, perhaps, on some almost landlocked waters. The sea fly is the same sort of thing as the salmon fly ; that is to say, a representation of some marine insect or small fish, usually the latter. The most plentiful fish of our seas is, I imagine, the herring ; and it is when the surface-swimming fish are feeding on the herring or sprat fry—whitebait, sile, or britt, as they are variously termed—that the fly fisher has his chance.

The fly with which I have done most execution is an imitation of the young herring which, according to Dr. Meyer's observations, measures about an inch and a half when about five months old. I will venture to call it the ' Whitebait ' fly. Its most usual size and form are shown in the accompanying illustration. The over wing is a strip of white feather from a swan's quill, the under wing being some strands of peacock harl. The hackle is of the same material, and the body, which is well padded, is covered with broad, flat, real silver, tinsel. A few strands of harl form the tail. When the wing of this fly is

nicely curved, the lure drawn rapidly through the water is a very fair resemblance of a bright shining whitebait, the silver tinsel representing its bright sides, and the green glistening harl its greenish back. What the white feather is for, I confess I don't know; but it is added because white flies appear to have a special attraction for many kinds of sea fish. How these and similar flies are tied is illustrated and explained in detail on p. 76.

To still more accurately represent the herring fry I have had some of these flies dressed with the white wing underneath. We then have the white swan's wing, representing the belly; the sides of silver, and the green back. The first-mentioned fly, however, seems to kill as well as the newer pattern. Where there is a breeze, the size shown in the illustration is most useful for bass, coalfish, mackerel, and small pollack;

'WHITEBAIT' FLY. NO. 1

'WHITEBAIT' FLY. NO. 2

but on a calm bright day when the water is clear, smaller flies are often more killing. In fact, the trout or salmon fisher can exercise just the same discretion in the sea with regard to the size of his fly as he does in fresh water, using a very large one on rough, dark days.

In whitebait fly No. 2 it will be noticed that I have tied the back and belly together, which renders it a closer imitation of the fry, but I doubt if its killing powers are in the least increased.

The term 'whitebait fly' is scientifically correct; because it was established beyond a question by Dr. Day that the admirable little fish which are caught at the mouth of the Thames

and elsewhere, and are held in particular veneration at Greenwich, are the young of both sprats and herrings.

Fly fishing has special advantages over all other branches of angling. In the first place, it is deliciously clean. Secondly, it is simple, requiring nothing more than a fly and length of gut, in addition to the rod and running tackle. Thirdly, from its simplicity it is an inconspicuous tackle, there being no leads, swivels, float, nor spreaders to frighten the fish; and the bait can be cast lightly on the water without the disturbance of a boat passing over or near the fish, which cannot be avoided when certain other methods are practised.

Generally speaking, all surface-swimming fish take the fly when, as I have said, they are feeding on the young herrings or sprats. Occasionally salmon, frequently sea trout in many districts, and still more often pollack, bass, and coalfish may be caught by the fly fisher. Herrings are not at all adverse to a white fly, and grey mullet may sometimes be caught in this way. There is a popular belief that an artificial fly is the best bait for mackerel, and every 'boy's mackerel line' which is sold at a seaside toyshop is decorated with three or four iron hooks the shanks of which are covered with red or white worsted with a strand or two from a swan's-wing feather roughly tied on. No doubt mackerel will occasionally take these flies; but it is not very often one can keep for any length of time near these fish when they are shoaling and breaking the surface. They appear for six or seven seconds, perhaps, and the angler may get a couple of casts into them and probably catch a fish; then down they go, to reappear a hundred yards away. Long before the boat can reach the spot they are away again, to break in quite another direction. If they can be lighted upon while shoaling in this way in any very small bay, then the fly fisher can whip them out one after the other and have grand sport. Sometimes a fly or two may be fixed on the ordinary whiffing line, in addition to the strip of mackerel-skin which is by far the best bait for the tail hook. Flies so placed catch a few fish during the day, but not many, and I have long written them down a fraud.

In addition to the fish I have mentioned, most of the bottom feeders—that is to say those of them which are in the habit of feeding on the whitebait—will take this fly if it is sunk low enough. I have occasionally caught cod, gurnard, haddock, and whiting on a white fly; but that has been when I have been trailing or whiffing with it behind a boat for other fish, and for some reason or other have allowed the tackle to sink almost or quite to the bottom.

In 1893 the capture of a cod in Loch Nevis on a fly was reported in the 'Fishing Gazette,' and numerous other instances of sea fish taking salmon or other artificial flies of considerable size have been recorded from time to time in the 'Field,' 'Land and Water,' 'Rod and Gun,' the 'Angler,' and other sporting papers. I may mention in particular a cod of 12 lbs. caught by a friend of mine, the lure being a sole-skin fly fished at a depth of a foot or so. There is not much doubt that at times cod come close to the surface to feed on the whitebait fry.

Though fly fishing for bass and coalfish has been carried on for a good many years by a few people, not a great deal is really known about this branch of angling. I hope, however, that the rapidly increasing popularity of the sport will bring about such an accession of experience, that before long our knowledge on the subject may be very greatly increased.

Before dealing with what I may call the 'fly-taking sea fish,' a word or two as to tackle may be necessary. The salmon fisher needs no teaching on this point, beyond perhaps a reminder that if he is casting for cuddies or small fish which weigh at the outside a pound, he need not use an 18-feet rod, nor a cast suitable for a 15-lb. salmon. Coarse tackle has prevailed for so many centuries in the sea, that immediately a man gets on salt water he seems to regard tackle which would be laughed at on river or lake as being quite suitable and proper for very small sea fish.

For those, then, who are not already fly fishers, a few remarks on rod, reel and line. The best general fly rod is made

of greenheart, and should be about 15 ft. or 16 ft. long. That is a weapon to be used with two hands. For single-handed use for small fish, 11 ft., or 11 ft. 6 in., is a good length. The rod should be fitted with snake rings made of phosphor bronze or hardened German silver (on no account have steel rings bronzed over; they invariably rust sooner or later), and for the top ring I like nothing better than my own little invention which is illustrated in the next chapter. It should be fitted with an inner revolving ring of phosphor bronze.

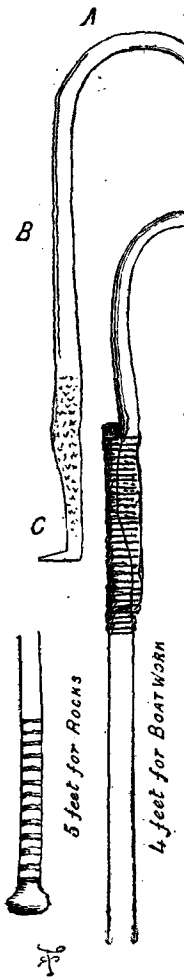
The rod should be fitted with suction ferrules which should be kept vaselined or oiled to prevent them sticking. The Weger and Warner winch fittings are about the best. The reel should be large in the barrel and free from any steel works or screws. For bass and other large fish, it must hold at least 150 yards of line; for smaller fish, a hundred yards of line is sufficient—less will suffice in harbours. Of lines there is a great variety. The cheapest serviceable line is of eight-plait hemp or linen, tanned. We can have much the same thing made in silk, or an eight-plait silk line with the usual waterproof oil dressing.

The cast should consist, for bass, of two and a half or three yards of the strongest salmon gut, or, failing that, treble twisted medium gut. In the chapter on making up tackle I have described how casts should be twisted, flies tied on hooks, &c.

A gaff or landing net must be used according to the size of the fish; anything over five or six pounds being best landed with the former instrument. The best gaffs for all kinds of purposes are not those screwed into sticks, but lashed on to a handle similar to the one shown in the illustration. When the gaff, which should be of steel (and not of iron, like one which was sold me last summer, and bent out nearly straight with the weight of a 10-lb. fish), gets a little rusty, give it a coat or two of varnish. The varnish will sink into the rust and make a very good protecting surface.

Not many people are aware that salmon have been caught in salt water on the fly. There are only a few places, so far as I know, where this has been done; but in these places

salmon are fished for regularly in this way. But then, of course, the sea is a big place, and the number of inlets, sea-lochs, estuaries, and the like, to which salmon resort in very large numbers, is limited. One of the smallest but most prolific salmon rivers in the United Kingdom is the Grimersta which flows into Loch Roag, Island of Lewis. The fish are small, but more numerous than sea trout in many a fairly good sea-trout river. When the water in the river is low they collect in large numbers at and below its mouth.




On the 28th of July, 1888, Sir John H. Morris, to whom I am indebted for these particulars, caught five salmon with the fly in this sea-loch. The water in which the fish were caught was absolutely salt, not merely brackish, and as far distant as half a mile from the mouth of the river. The loch is shallow, from six to twelve feet in depth. The weather was cloudy; there was a good breeze, and the tide was flowing into the loch. Later on, however, the fish were also taken on an ebbing tide with very little wind. They rose best on the flood with a good stiff breeze.

The fly used on the 28th of July was a black and yellow (the Wasp) on a No. 5 hook, and was worked rather deeply in the water; but other and larger flies were used with equal success. It is a curious fact that the fish had been waiting in the loch for ten days or a fortnight before they showed any inclination to take the fly. They continued to rise well for a week, and some sixty fresh fish were taken

by five rods—sixty salmon in a week ! But they ceased to rise on the 4th of August.

Salmon had never been known to be caught on the fly in the bay before, and Sir John Morris attributed their rising during that week to the fact that they had been confined and kept in the sea loch long beyond their usual time for going up the river. But from a letter I have received from him recently it appears that a good many fish have been taken in the same way since that year. It is quite a common thing to catch sea trout in Loch Roag with the fly, and it was owing to the salmon rising to sea-trout flies that they were specially fished for.

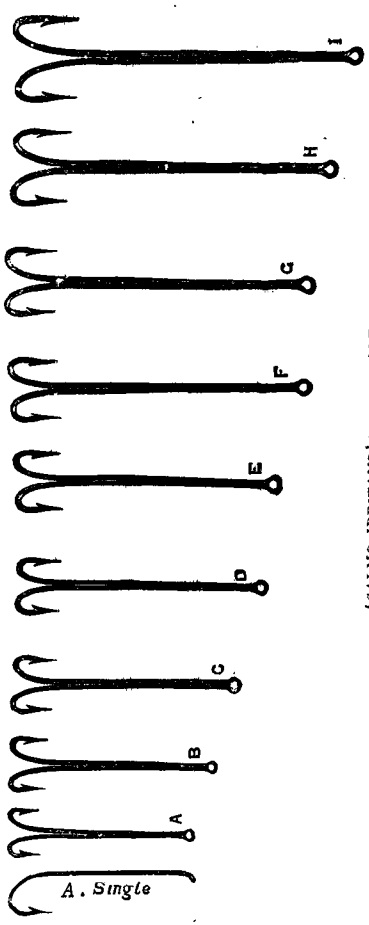
Another instance of salmon taking the fly occurs in the Fleet, a piece of water between Dornoch and Goldspie, on the coast of Sutherlandshire. There the fly is worked systematically during the first few hours of the flowing tide.

There are a great many instances on record of salmon taking baits of various kinds in salt water, and a good many rivers where sport is had on the tidal pools. On the other hand, there are very many places where salmon rarely rise until they have reached fresh water.

A friend of mine living in the north of Scotland once caught a salmon of 14½ lbs. in the sea on a worm. Now and again salmon smolts are taken in the sea on the white flies used by cuddy fishers. Most anglers are probably aware that in Vancouver the salmon take both spoon bait and fly in the sea.

That sea trout may be caught in various ways by fair angling in salt water is well known to men who have visited the north of Scotland and the outlying islands. A great deal of fly fishing is carried on for them in the brackish water of the estuaries of most rivers which they frequent. Sea trout in fresh water are uncertain fish; they will suddenly begin rising with the greatest vigour, and as suddenly cease; and after they have been in the river a few days they have the unhappy knack, from our point of view, of rising extremely short. In tidal pools they often rise very well.

I may refer here to a double hook which I designed for some short-rising salmon and sea trout. How I came to require its use is described under the heading 'Salmo Irritans' in a collection of sketches of life in the Hebrides called 'Days in Thule.' Suffice it here to say that, finding many fish plucked at ordinary flies and yet were not hooked, I conceived the idea of lengthening the shank without enlarging the bend; for it has always seemed to me that after the bend has been increased up to a certain size, further enlargement is not required. A longer shank is, of course, necessary for a larger fly, but it is not requisite to enlarge the bend.




'SALMO IRRITANS' HOOK SCALE

Messrs. Warner & Sons, the firm of Redditch hookmakers, carried out this idea extremely well for me, and made a whole scale of double hooks on this system. I have not had an opportunity of trying the largest hooks of the scale, but the smaller ones answer excellently. I have caught many a salmon and sea trout through their instrumentality.

The scale of these hooks and also a fly tied on them are illustrated. The proportion shown between body, wings, tail and hooks should be carefully followed when flies are being dressed on this system.

I have sometimes seen sea trout follow the fly, making pecks at it like a bird making bad shots at a worm ; but it was rare indeed that they actually touched the hook without being caught. I mention these hooks here because they are well suited for sea-trout fishing in the sea. I imagine other anglers are beginning to overcome their prejudice to the novel shape, for I see the hooks at Farlow's and other tackle-makers. I may add that they are not patented or protected in any way.

SEA-TROUT FLY ON 'SALMO IRRITANS' HOOK

In Orkney and the adjacent islands it is a common practice to fish for sea trout in salt water, but the worm, which is cast by means of a fly rod, is a more favourite and more killing bait than the fly. The largest sea trout are, as a rule, found on the edge of a tideway and close to rocks on which there is a growth of seaweed. They are exceedingly shy when the water is clear. It is better to wade than to fish for them from a boat. Sometimes they will take neither worm nor fly, showing a preference for a sole-skin sand eel, which hooks more fish than baits which spin. The fish are mostly found in water varying from two to five feet.

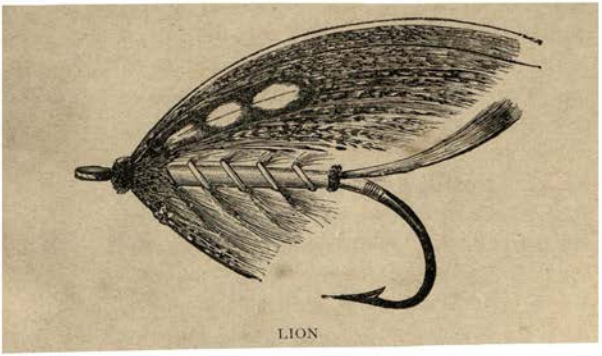
Mr. Moodie Heddle, of Orkney, tells me that once when casting a sole-skin bait he was fortunate enough to catch two trout weighing between nine and ten pounds each. They were taken within six feet of the beach in about sixteen inches of water. In Orkney, he says, the only killing fly for sea trout is one dressed with a fiery brown cock's hackle tied Palmer fashion to imitate a sand-hopper, and either with or without wings of speckled grey feather of some kind. The brightly coloured sea-trout flies used farther south have not proved killing.

Another bait used with much success and cast like a fly in that part of the world is a mouse's tail, which is baited in the following manner: The gut on a common round-bend worm hook (without eye or flattened end) is softened and threaded on a needle which is entered three-quarters of an inch from the end of the tail and brought out at the thick end. The hook-shank is then pulled up through the point of entry, and the thick end of the tail firmly bound round with crimson silk above the end of the hook shank to prevent it slipping. I have little doubt that the trout look upon this bait as a very small eel or worm of some kind.

MOUSETAIL

A capital artificial sand-eel, which can be cast with the fly rod, can be made in the following manner: Get a piece of copper bell wire, or thick brass wire, $2\frac{3}{4}$ inches or 3 inches long; tie a hook (No. 12 or 13) firmly to one end; slip the other end through a piece of greyish-white rubber tubing, such as is used for feeding-bottles, which can be bought cheaply by the yard. The tail end should be cut sloping, and sliced at side of tail so as to make it vibrate; the end of wire coming out at mouth should be attached to a small phosphor bronze, brass, or German silver swivel. The back should be coloured with two coats of Stephens' blue-black ink, the first coat being brought one-third of the way down the side also; then varnish the inked part, which makes it olive green. The belly can have a line of silver paint or strip of foil. The sides should be left white, and if they get discoloured scraping with a penknife will freshen them up. Two pink beads, with a black circle round each drawn on the indiarubber in ink, represent eyes. The neck should be tied in with greenish silk. One hook is better than two in clear water and near weeds; and if an occasional fish may miss it, the consolation is that fewer rises are obtained with more complicated tackle.

Wading in about two feet of water, and casting this bait from the beach with a 16-ft. rod, Mr. Moodie Heddle caught five sea trout, one summer's day, when the fly was quite useless. The fish were in four feet of very clear water where



LION

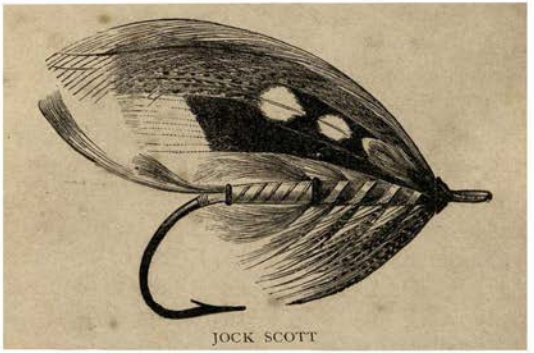
the weeds were plentiful. There was no tide ; the wind was slight, and the day sunny. This bait can, of course, be made to spin by curving the wire inside the tubing. The sole-skin

DURHAM RANGER

bait already mentioned, with the small strip of lead sewn into the belly to make it swim upright, is so light that it can be easily cast.

The four flies on which I should be inclined to pin my

faith for sea trout in the sea and estuaries, are a blue or silver Doctor, Thunder and Lightning, Jock Scott, Durham Ranger, and the Alexandra. It is very important, however, not to have



JOCK SCOTT

these too large, and Mr. Moodie-Heddle's recommendation of more sober-coloured flies for the Orkneys should be borne in mind.

One of the finest takes of sea trout I have ever seen, leaving out of consideration the monster fish which are found

THUNDER AND LIGHTNING

in Norway, was caught on the smallest possible blue Doctor at the end of a very fine cast. The fish were lying in a couple of feet of water, or less, close to the edge of a sloping sandbank,

in the tidal portions of a Scotch river. The angler was standing on the other side, and caught these trout by sheer dint of careful casting, fine tackle, and exceedingly small fly. I had been salmon fishing, higher up the river, and when I joined him the sport was just over. Other men who had been fishing with flies which I should certainly not call large, but were larger than the one which caught the fish, had no sport whatever.

I referred just now to Norwegian sea trout. In a few rivers these grow to an enormous size, and many are caught out in the fjords some distance from fresh water. The Norskers harl with a bunch of worms, but many good fish may be taken by harling the salmon fly, particularly at dusk or very early morning. As in Scotland, the sea trout lie close to the rocky shore, and should be particularly looked for off projecting points and in small sandy bays. Casting from the shore is not practised, so far as I am aware; but I have not the least doubt that if it were systematically persisted in, some very good results would be obtained.

I heard of one case in which two English anglers, who were not in a position to hire a salmon river, went to Norway, and actually had better sport with the sea trout in the fjord than had a lessee of a very fine salmon and sea-trout river hard by. That was, of course, in a very dry season, when the fish were in large numbers, waiting in the sea until a spate came which would enable them to run up the river. I understand that the 'fly' was a blue and silver Phantom.

In the fjords sea trout will take medium-sized Jock Scotts, Butchers, and, in fact, all the brightly coloured salmon flies. Both in Scotland and Norway I found the 'Thunder and Lightning' particularly killing.

The chief points, it seems to me, to be borne in mind in connection with sea-trout fishing in the sea, is that the fish are not less shy than in fresh water, and, like brown trout in rivers, lie close to the shore; as we approach the river, we find them on the edge of the stream.

There is a fish which is a sort of missing link between sea

trout and our good friend Fario. It has been named *Salmo estuarius*, and in the estuary of the Shannon is known as the slob trout. 'Slob,' a novel word which recently puzzled and amused the House of Commons, is the local name for the vast banks of mud that are disclosed at low water in the estuary, many thousand acres of which have been lately reclaimed. There is not much doubt that the slob trout is the ordinary brown trout which, on account of the scarcity of food in his own larder, pays visits to his marine friends. When there comes a spate he will be found rushing up his native stream to feed on whatever the flood may bring down. I once caught a slob trout of a pound which, when knocked on the head, proceeded to evolve a half-digested shrew mouse.

This variety of fish is to all intents and purposes a brown trout, with a silver sheen over his speckled sides, brought about by residence in brackish or salt water. He takes the fly readily enough in the estuary, but, having a knowledge of natural winged and other insects, shows a preference for ordinary brown trout flies rather than blue Doctors and other gaudy lures favoured by the real original sea trout.

Bass, which in the spring and summer are found in the sea, but push up into estuaries in the autumn, take the fly best when feeding on the herring fry. Here the tiro may naturally say, 'Yes, it is all very well to tell me that; but when are they feeding on the herring fry? How am I to find that out?'

Imagine a large rocky island standing a furlong and a half from the mainland. In the little channel intervening, runs at times a tremendous tidal current. The tide has turned an hour or two past, but has not yet begun to make with any speed; running quietly, perhaps a couple of knots or so. On the cliffs are hundreds of sea gulls, apparently asleep. By degrees the tide runs faster and faster, there are swirls and eddies on the surface, and presently we find ourselves in a miniature maelstrom. The birds begin to wake up, and feathered scouts take short flights over the sea, returning to the cliff. Presently all the gulls set up harsh cries, launch themselves into the air,

and, hovering over the most troublous of the water, dip and dip and dip again in their endeavours to pick something off the surface. Just beneath them there is a splash, and then another, and another. A few seconds later the surface is broken in a fresh place by the hungry fish, and away hurry the gulls to share in the banquet.

There can be no possible mistake about the bass being on the feed ; you can even see them. They have hunted the herring fry to the surface and are attacking them below, while the gulls are worrying them from above. Go, cast a whitebait fly over those fish, and see if you cannot avenge the death of many a hundred poor baby herring, sprat, and mackerel. These will not be big fish, mind, but what are called 'school bass' ; anything from two to five or six pounds. They must make up in numbers for lack of size. They are the fellows the fly fisher should look after ; the monster bass, weighing maybe fifteen pounds, which we see basking in the sunshine off the rocks or round about the harbour, are, as a rule, too stately to worry themselves over such inconsiderable trifles as baby herrings or whitebait flies. They like something larger and more tasty, as you will discover if you turn to Chapter XI. Sometimes, however, a really splendid fish is found among the school bass.

One great difficulty is to hold the boat in such a place as I have described. When you get to know the spot you will very likely find that during certain tides the bass feed like this for a half-hour or more, and more or less at fixed times. The sea gulls know it far better than you do, and while apparently asleep on their cliff perches, are patiently waiting the advent of the bass.

It may not be herring-fry the bass are feeding on. Their quarry may be sand-eels ; in which case an artificial sand-eel of the kind described on p. 143 as being good for sea trout should be tried. I have often intended to make up a combination whitebait fly ; a union of the real and the artificial. It could be done, I think, thus : Whip on to the shank of hook three or four bristles with points projecting. There may be a

little peacock harl with a double strip of white swan's quill feather in the place of a wing. Cut a thin strip of gurnard skin and twist it round the shank of the hook. Tightly fasten down each end with waxed silk; of course, any tough, bright fish-skin will do. For bristles, by the way, it is not necessary to go to a hog, a hair-brush will suffice. I have often rigged up rather novel spinning baits in some such way as this, twisting strips of fish-skin over an arrangement of hooks, and have caught bass with them too.

The flies which Mr. J. C. Wilcocks recommends for these fish are any of the smaller salmon flies, and in particular the Shaldon Shiner, which was used with great success by the late Mr. J. C. Hale, near the village of Shaldon, on the west side of the estuary of the Teign. It is a kind of imitation dragon fly; the body very thin, of flattened silver wire; a small brush of scarlet feather for the tail; a little green, blue, and red dubbing out of an old Turkey carpet for the shoulders; and bright blue wings, to which are added half a dozen fibres of goose feather. It should be made about the size of a medium-sized salmon fly. Nowadays, however, many bass fishermen prefer the fish-skin flies to any made of feather and tinsel. The dogfish-tail fly (p. 156) should be killing. I have not had an opportunity of trying it. One very important thing in fly fishing for bass is to work the fly in rapid jerks, and, of course, the man who can cast well will catch many more fish than he who is inexpert at this most delightful branch of angling.

It is *very* desirable not to allow the boat to go over bass; and in the strong tidal currents which are chiefly frequented by these fish it is often necessary to have two men, or even three, to row the boat. If you can reach the fish from the shore, as from rocky points, so much the better; but where there is a sound between an island and the mainland, such as I have described, the fish will as likely as not be feeding out in the centre of the current.

Of course there is no reason to be idle while waiting about for the fish to begin feeding on the surface. A little railing

may be done ; and pollack, bass, or mackerel will very likely be taken in that way. But, I repeat, above all things do not let the boat go just over the bass ground, nor, when the bass are feeding, allow your men to take you too near them. The longer the line can be cast, the better.

Very few salmon fishers are able to get out a long line cleanly and well unless they are casting down stream and the line is extended by the water at the end of each cast. If they were to cast up stream the flowing water would bring the fly back to them, and it would be a difficult thing to pick the line off the surface and make the proper backward cast previous to the forward cast which sends the fly in the desired direction. Dry-fly fishermen in Hampshire, who fish mostly up stream, usually grease their lines to make them float. The line can then be picked off the water even when it is not extended ; but in sea or salmon fishing the line is sunk, and long casts cannot well be made unless the fly is fished down stream. At any rate, the beginner should keep the boat placed at one side and rather above the shoal of fish. When I say 'above,' I mean regarding the tidal current as if it were a river. Cast across the current at an angle of about 45°, letting the fly fall a yard or two in front of the fish ; then work it in rapid jerks with the point of the rod, allowing the tide to carry it among the shoal. Be particularly careful not to cast beyond the fish, for if you are using a thick line the fish will see the line before they see the fly, which is obviously undesirable.

Bass very often take the fly under water ; so, especially when there is much ripple, it is better to watch the line rather than the fly. From the point of the rod to where it touches the water, the line takes a gentle curve. Watch that curve, and immediately you see it straighten, strike ; and then look out for squalls. In playing the fish, keep the bend of the rod well up ; hold the rod at an angle of about 45°. If the fish makes a determined run let him have line, checking it, if needs be, a little with one of your fingers on the rim of the reel ; but never allow the rod to be pulled down towards the water. Always

keep the rod up at an angle of about 45°. If the bass is pulled kicking and plunging up stream among the shoal, his struggles will be so evident to his brothers that he alone of the shoal will be landed. The wiser plan, which, however, involves a considerable amount of labour, is, immediately a fish is hooked, to draw it across the current towards the boat away from the shoal, and then drop down with the tide below the other fish, who, having their tails pointing that way, see nothing of what takes place. It is a comparatively easy thing to pull a bass or trout or salmon down stream. It should always be done when possible. After the fish is landed the men should again row the boat by the side of, but not too near, the shoal, until they place one within casting distance, when with good luck another fish may be hooked and played in the same way.

Beginners have a habit, when a fish is exhausted, of reeling in too much line. If your rod is fifteen feet and you reel up until only ten feet of line remain below the rod point, it is obvious that the fish can never be brought close to the boat. To decide exactly how much line to reel in requires some judgment, but the word of warning on the point is advisable.

When playing a fish from the shore and you are about to land him, reel up until he is within twenty feet of the point of the rod, let us say; and then, if the ground will permit it, walk slowly backwards. Your attendant should be stooping down, gaff in hand, and you must try to bring the fish to his feet. If you are alone you must, of course, do the best you can. Get the fish well played out, and just a proper length of line reeled up; so that when the rod is nearly perpendicular the fish can be brought to the desired spot. Then, with the gaff in the right hand, and the little finger of the left hand pressing on the rim of the reel to prevent it revolving, use the gaff with the right hand.

A word as to the manner of gaffing. I have a lively recollection of an old Norwegian farmer whose services I solicited in the matter of landing a 13-lb. sea trout. He had never

used a gaff before, and knelt down and began stroking the back of the fish with it. The best place to gaff a fish is the best place you can. If the line is in the way take him under the belly, but give the preference to the back. If he affords you a fair chance, lay the hook neatly over him, and then give a pull towards you, sharp and sudden, such as would bring a horse on to his haunches. If the hook takes hold, at once turn the handle of the gaff into a perpendicular position, which will help to prevent the fish kicking off and the stick from breaking. The power of fish lies almost entirely in their tails; so that if you gaff a large fish in the middle of the back or shoulder, he may work his natural propeller so vigorously as to smash the gaff or break away from the hook. With large fish, therefore, the best plan is, if possible, to get the gaff well in near the tail. The big creature is then helpless. If you have any reason to think your gaff is not strong enough to lift him out, walk backwards, draw him tail foremost on shore, and knock him on the head as quickly as possible. When in a boat, a gaffer may be obliged to lay hold of the fish with middle finger and thumb of left hand across the back of the neck, in addition to lifting him in with the gaff stuck in near the tail and held in the right hand.

It is worth bearing in mind that, however strong one's tackle, very large fish cannot be lifted safely in by means of the fishhook; not that the tackle will necessarily break, but the fish's flesh may give way if the creature is very heavy. In anglers' language, the hook will tear out or break away.

For small fish – anything under 5 lbs.—a large landing net is certainly preferable to a gaff; but I will repeat here what I have already stated in an earlier chapter, that, if neither landing net nor proper gaff is forthcoming, a large hake hook with the barb filed or hammered down, lashed on the first available stick, is a very excellent substitute. A steel meat-hook makes a very fair gaff. These remarks on landing big fish apply perhaps more to pollack than bass, for the largest bass are not commonly caught by the fly fisher.

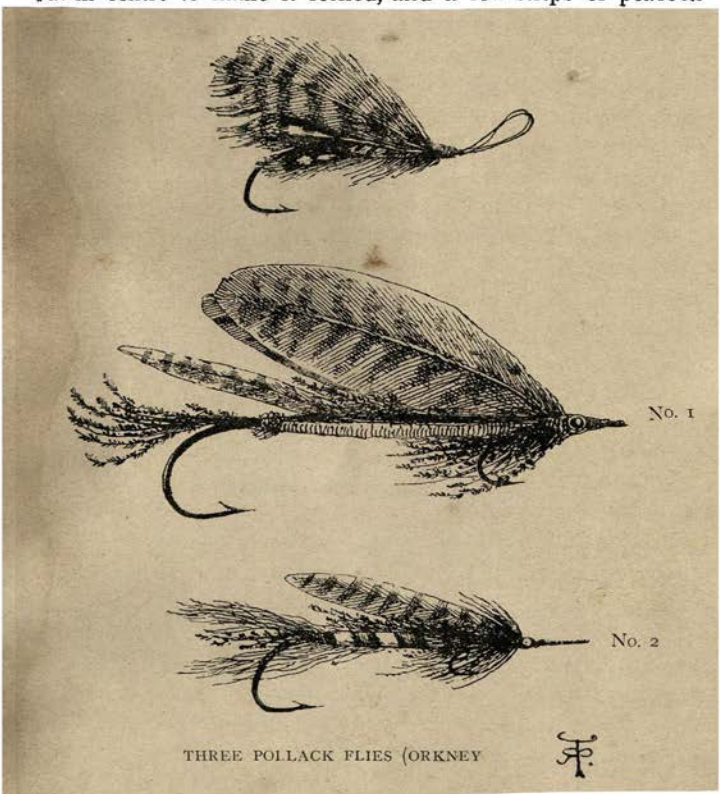
Pollack and coalfish are frequently classed together in sporting literature; but their habits are more dissimilar than their appearance. On the Devonshire coast I am well within the mark in saying that many thousands of small pollack are caught on flies in the spring of the year. The usual tackle, however, is a kind of glorified paternoster with a number of flies or Belgian grubs (see p. 127) instead of hooks and baits. This arrangement is trailed behind a boat, and the little fish are often caught half a dozen at a time; it is a case of quantity rather than quality. This I hardly call fly fishing. I am now more concerned with casting a bait of some kind by means of a fly rod.

On many parts of the Scotch coast small pollack and coalfish swarm during the summer months, and take a white fly greedily in the evening. The whitebait fly is killing. There are few flies which, if large enough, they will not take, but they appear to have a weakness for a white wool body and a white wing, the size depending on size of fish. If a little red tail and some gold or silver tinsel ribbing for the body are added, the fly will be none the less killing. The sole-skin and imitation sand-eel baits already described are very attractive to pollack, which will also take large feather baits or flies as you may please to call them.

Mr. Moodie-Heddle, of Orkney, sent me the following dressing for a cheap and effective fly on a large-sized cod hook. Tie on a body of orange and black, well barred in strips of half an inch in width, and lay over the back of the body a few strands of peacock harl, or two whole feathers tied down at the tail. Wings either white swan's feather, two sides tied over one behind the other, or two whole speckled turkey's or drake's feathers.

The two larger patterns illustrated, which are also strongly recommended by Mr. Moodie-Heddle, can be made in the following manner. No. 1, brown or grey turkey feathers for wings (tied down at head), two feathers being placed face to face. Curlew feathers, one or two further back, and peacock feathers on head

and tail of the bait. Beads for eyes ; red worsted at gills ; blue worsted for back ; pale yellow or greenish-yellow on belly. No. 2 is made in much the same style. Body red and black worsted with gold or silver tinsel ; tail of heron's feather, cut out in centre to make it forked, and a few strips of peacock




THREE POLLACK FLIES (ORKNEY

harl. For wings, two curlew feathers face to face, and, if needed by the size, a pair or single second wing further back. Some such flies have been used in Ireland for many years, and are mentioned in a book called 'Fly Fishing in Salt and Fresh Water,' published by Van Voorst in 1851. The smallest of the

three flies is for use when small fish are plentiful, or when the water is clear and smooth.

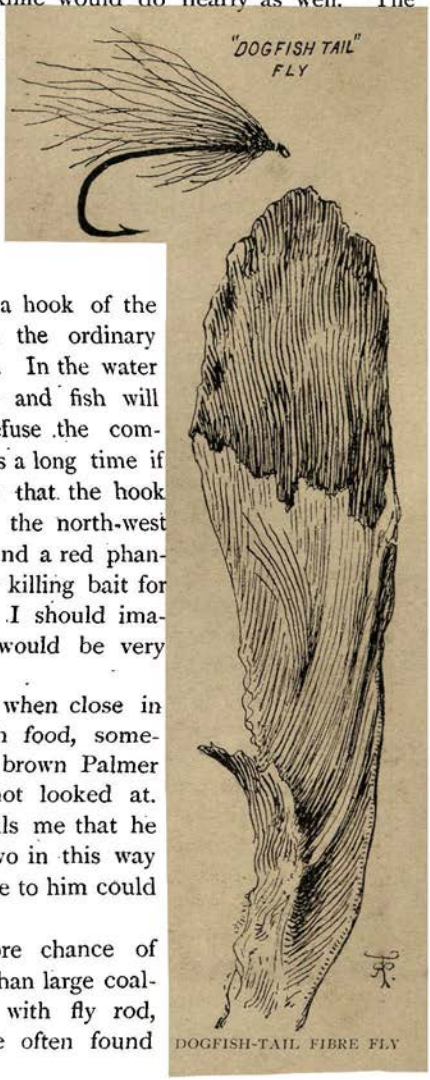
In the Orkneys flies are by no means a modern innovation, the local fishermen finding that these large double-winged flies will kill lythe and saithe when red and white rags fail. A single set of wings are not found large enough to cover the medium-sized cod hooks which are used for the larger fish. I must confess that these very large flies are not as a rule cast from a rod, but are used as whiffing baits from a boat which for saithe is worked on the edge of the tide, the line being somewhat heavily leaded.

Anyone who is accustomed to dress flies will see that baits for lythe and saithe may be made of any materials which are to be had, and wherever there is an old hearthrug, a mop-head, a coloured blanket, a poultry run, or a red-haired child, materials of some kind are forthcoming. I once caught some trout on Dartmoor with a fly made of no better materials than some white darning worsted and a quill pen, but I used it at night during a spell of dry hot weather.

For small fish a white fly does well over a dark bottom; and a greyish-brown fly, dark wing, over sand. Another good fly is made with a grey-brown turkey's feather, first dipped in turmeric to give it a yellowish shade; body either red and black barred, or peacock harl.

A most killing fly, shown in the illustration, is made from the tail of a dogfish, after drying. It will take when all others fail, owing possibly to the peculiar glistening of the fibres in the water. It can easily be made from the following directions: Dry the tail end of a dogfish by hanging up in the wind (putting on a little salt if the weather is hot, to prevent it from going bad). When the tail fin is quite dry, cut it off *close to the body* and tear off the dry skin from each side. This will leave the centre part of the fin composed of some fibrous rags with possibly a little dry flesh adhering. This flesh is removed by the Orkney fishermen by soaking in their mouths and stripping between their teeth, holding one end of the fibres in

their hand. Possibly maceration in water and removal by scraping with a blunt knife would do nearly as well. The result is from each tail a bunch of bright, whitish-yellow, fibrous matter, each fibre of which is stouter than an ordinary pig's bristle, but softer, and shines with a lustre like that on very bright seal's fur. This, when dry, is simply tied on a hook of the necessary size, just as the ordinary white feather would be. In the water it softens and shines, and fish will take it when they refuse the common white fly. It lasts a long time if dried after fishing, so that the hook does not rust it. On the north-west coast of Scotland I found a red phantom such an extremely killing bait for lythe, i.e. pollack, that I should imagine a large red fly would be very deadly.



DOGFISH-TAIL FIBRE FLY

*Lythe and cuddies, when close in shore and gorged with food,* sometimes take a small fiery brown Palmer when white flies are not looked at. Mr. Moodie-Heddle tells me that he has taken a score or two in this way when people fishing close to him could get few or none.

There is much more chance of catching large pollack than large coal-fish with the fly cast with fly rod, because the former are often found

'TAKING THE FLY AS QUICKLY AS I COULD CAST IT

in large quantities in comparatively shallow water where rocky points stretch out some distance under the surface, the most favoured rocks being those covered with sea-weed. In such places, in the evening, large fish will come with a plunge like salmon, and go down again head foremost to seek shelter among the weeds. I need hardly say that the tackle must be very strong, and the rod proportionately stiff.

For the little cuddies, in which term I believe the Scotch include both lythe and coalfish, though some ichthyologists limit the word to the latter variety, quite fine tackle can be used. In the north it is a common thing to catch five or six dozen of these little fish on a calm summer's evening with a white fly.

Large coalfish are commonly found in seven to ten fathoms of water in or at the edge of a tideway, and, unless they are tempted to the surface by shoals of sand-eels or other fry of some kind, are not very get-at-able with the fly rod. The smaller fish, however, varying from half a pound to three pounds, the billet of Yorkshire, which are favoured with the extraordinary variety of local names given in the remarks on coalfish, occasionally afford really splendid sport with the fly. In the introductory chapter I referred to the very excellent fly fishing I used to have from Filey Brigg, shoals of billet coming close to the shore and taking the fly as quickly as I could cast it to them. It is when these fish are thus greedily feeding close to the rocks that the fly fisher has his opportunity. In the sea wherever they are found it is always well to be prepared with a fly rod and a suitable fly, and the whitebait fly (p. 135) is the best, so far as I know, but some prefer a piece of fish-skin.

The last time I sea-fished was in a Norwegian fjord. I was using a paternoster and catching whiting, flat fish, and codlings, but with a fly rod I might have had much better sport, for every few minutes large shoals of billet were breaking the surface and beating it into foam, splashing about after some smaller fish which they were pursuing. Gulls hover over billet

as they do over the bass, and immediately the coalfish appeared, the birds came swooping down from their resting places on the mountain-side, and shrieked and fought for the small fry.

Both for pollack and coalfish the fly should be cast and drawn through the water, and if the fish run over a pound I should certainly not use more than one fly.

I hope these remarks will not lead anybody to take a rowing boat at Brighton or Hastings and begin casting vaguely about a mile or so off the sea front. Neither should I advise a stroll along the beach at Eastbourne [1] or Cromer, fly rod in hand. No; to obtain sport with the fly it is necessary to go to places frequented by fly-taking fish, and sport will, of course, depend to a very large extent on the local knowledge available in the person of the fishermen whose interest in the game must be excited by any means the fly fisher thinks best.

I think it was Pliny who said that the mullet was a stupid fish, but things have changed now, and the beautiful mugilidæ of the end of this century are as wide awake as the most exacting angler could wish. There is a tradition that these fish rise to the fly, but if I say that there are 'instances on record' (a good and useful old phrase) of grey mullet having been caught by fly fishermen, perhaps I shall have put my case as high as is justifiable. I have never caught one with the fly myself, but live in hopes. One moonlight night some huge mullet were feeding round my boat, and I tried them with a fly which not a fish would look at. According to legends on this subject, grey mullet will often follow a fly, but less often seize it; the fly fisher's best chance being at night.

Mr. E. Gosling, of Orkney, once wrote to a sporting paper stating that he had caught mullet at night with a silver-bodied moth dressed in the following manner: Wing, white owl's feather; a white hackle; tail, a piece of kid or washleather;

[1] But a friend of mine tells me he has more than once had fine sport with large bass off Beachy Head in September. He cast a white fly from a small yacht which was sailed very slowly near the shoals of these fish.

the body wrapped round with wool to make it fat, and tinsel being over all.

In 1881 a man used to catch good-sized mullet in the Clyde with a white fly, on the hook of which he put a piece of the bivalve spout fish, called locally 'garrocher,' but in the language of the dead, *Mya arenaria*. Probably the spout, which is tough, was used for the purpose.

Perhaps our shy friend might be induced to take a fly if the bend of the hook were covered with a gentle or two and a few gentles were cast into the water and carried down by the tide. In fresh water we can certainly educate fish up to take certain baits by prolonged ground-baiting, and the mullet, which is almost as much a freshwater inhabitant as a dweller in the salt sea, might perhaps be elevated in this way into a fly-taking fish. Whether with fly or otherwise, when fishing for mullet it is necessary to exercise great care to keep as far away from the fish as possible, and to make no noise.

Mr. Hearder, of Plymouth, who has had many opportunities of catching mullet with the fly, has only succeeded once, and on that occasion he used a red-bodied fly, the body of which was smothered with shrimp paste to add to its natural or, I should say, artificial attractions.

In many estuaries and harbours there is no lack of these fish in summer. They often come up with the flood and drop back with the ebb, and they may be seen in hundreds. Perhaps in some future edition I may be able to give more useful information on this subject.

With regard to mackerel, there is less to be said here than might be expected (see Chapters VII., VIII., XI.) From the fly fisher's point of view they are perhaps unsatisfactory. Still, the sea is full of them, and when feeding they will take any bright lively thing readily enough. Provided you can catch them near the surface and hungry, there is sport to be had amongst them with the fly.

According to Couch, the garfish—herald and companion of the mackerel—is a true fly-catcher, feeding on black flies which

are sometimes found on the surface of the sea in calm weather. He mentions fish of this kind having been found with their stomachs filled with black flies.

Herrings, on the other hand, have, I believe, a bright future before them, as well as a respectable past, for there are many instances on record of these fish taking the fly in a most complacent and entirely satisfactory manner. Probably my whitebait fly is as good as any for the purpose. Along the coast of Down and Antrim hundreds of herrings used to be caught on hand lines, to which feather flies were attached. The fishing was done at evening or sunrise.

Herrings are a most remarkably hungry fish, and it is almost a question whether even the feather on the hooks is required; for at Peterhead during the months of April, May, and June there is, or was, a practice of fishing for herrings with the bare hook mounted on what is termed locally a 'dandy line.' Little cross-pieces of whalebone or cane were placed at intervals along the line, having unbaited hooks at either end. The whole apparatus was jerked about, and the ravenous herrings would fly at the bright shining new hook.

On the unimpeachable authority of a Dublin police magistrate—Mr. Porter—a fly fisher once took a large number of herrings in Dublin Bay. There was a fish hooked at almost every cast, and the fly was a black hackle or black Palmer. A gentleman who writes under the name of 'Stormy Petrel,' on the other hand, caught a very large number of herrings with a fly dressed to represent a red caterpillar, and on another with a green body, these killing better than the ordinary Irish herring flies, which have white wings and silver-tinsel body. This was in Strangford Lough at the end of summer; the time was evening. Three dozen and nine were brought into the boat, sometimes two at a time; and more would have been killed had not a pollack risen to one of the flies, bolted for the weeds, after the manner of these fish, and smashed up the tackle.

In the 'Field' of September 23, 1893, Mr. Dombavand wrote that while fishing for cuddies in Loch Inchard, a sea loch in

Sutherlandshire, he caught thirty-eight herrings. The loch was at the time full of these fish, and the local fishermen were making immense hauls. A week or two later Mr. J. C. Wilcocks mentioned in the same paper that he had seen shoals of young herrings or whitebait rising at small gnats, just like dace in a millstream. This was in almost, or quite, fresh water, but he had seen them do the same thing at the Kingswear Pontoon, Dartmouth. There was another letter on the same subject from 'J. S.,' who wrote that fly fishing for herrings was a well-known amusement in Shetland, and that he was once with a party of three who had caught over eight hundred herrings in Lerwick Harbour in a little over two hours. The best time for fishing was in June and July, from about 9 to 11 P.M., or from midnight to 3 A.M., the latter hours for choice. The flies were not cast; there were eight or ten on the line with a small sinker at the end of it, and the line was worked gently up and down. Not only will Scotch and Irish herrings take the fly, but I heard of them acting in a similar way on the East coast, particularly at Filey and Dovercourt.

It will doubtless surprise a good many people to learn that the larger sand-eels take the fly greedily on some parts of our coast. I have never attempted to catch them in this way myself, but Mr. J. W. Blakey, the editor of the 'Angler,' who used to fish a good deal for them on the Northumberland and Durham coasts, has kindly sent me some very interesting information on the subject.

It appears to be delicate and artistic work; not over-profitable, but a pleasant pastime on a calm summer's day. When the sea is smooth and glassy, the sand-eels come inshore in large shoals. They may be seen swimming about the mouths of harbours and amongst rocks, provided the water is still and clear, and they rather affect a racing current. The larger launce feeds a good deal on the young of other fish, which in turn consume sand-eels on attaining maturity.

The best fly for sand-eels, if it can be strictly called a fly at all, is a piece of dried fish-skin (the grey gurnard yields the best

material for the purpose) to which are attached three small hooks. The gurnard should be split down the back, and the skin torn off stretched on a piece of glass and put in the sun to dry. Any particles of flesh which are clinging to the inside of the skin should be scraped away. The result is a piece of kid-like substance, white in the centre, and deepening in colour somewhat at the sides. On some days a strip of white skin kills best, but on others the fish appear to prefer a darker shade, why or wherefore no man knows.

In the illustration is a piece of skin cut to the right shape and size mounted on three hooks—in fact the fly complete ; it will be noticed that two hooks are not attached to the bait proper. For casting this lure there is nothing better than an ordinary single-handed trout rod, a fine dressed tapering line, and a tapered three-yard cast. It is well to be prepared with flies vary-

GURNARD-SKIN FLY FOR SAND-EELS (FULL SIZE)

ing from white to grey. Sand-eels are not the only kind of fish which will take these flies, for sea trout, smolts, and billet by no means despise them. On a fine summer's day ten or eleven o'clock is about the hour to start operations. Should there be the least sea on, or the water thickened by river floods or other causes, it is little use fly fishing for sand-eels.

The fly is worked very much like the salmon fly, cast across and rather down stream, allowed to swing round, and then drawn up against the tide in short jerks, but it is important to keep it on the surface of the water. Sooner or later it will attract one of the silvery little creatures to the surface, which will follow the fly a yard or more and then make a dash with open mouth, taking it from behind, when the angler strikes. Should the fish miss the fly it disappears for a second, but very likely comes up again and seizes it by the head. Owing to these

little creatures having most delicate mouths, they have to be played very carefully, and a small meshed landing-net is a decided advantage. One day, Mr. Blakey tells me, he saw a number of sand eels in pools among the rocks, rushing about, seizing floating particles of food. He tried the gurnard fly without avail, but noticed that now and again the fish would fly at the frayed end of the casting line. This gave him an idea; he cut off an inch of line, frayed out all the fibres, attached this curious bait to a hook, and with it caught a number of fish. After this experience he tied some small flies in the nature of elongated Palmers, and was so successful with them that he almost discarded the gurnard-skin fly, but later in the season found he had to go back to it.

The last fish of all—possibly there are more, but I doubt it—are smelts; and here again I must confess never to have attempted their capture with flies. I need hardly say that any fly used for the purpose should be extremely small. It would be all the more killing if tipped with a fragment of shrimp or lobster and allowed to sink a few inches under the surface. Using a fly rod, I have killed a good many of these fish on an ordinary cast, but in lieu of flies there were two or three small roach hooks, each tipped with a fragment of fish. This tackle requires casting with great care to avoid whipping off the bait.

A last word as to fly fishing for herrings. In the name of Neptune, don't go for them with a huge salmon rod and salmon cast. They are little fish, and should afford very pretty sport indeed with an eleven-foot trout rod and a light trout cast.

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## CHAPTER VI

### FROM LAND AND PIER

MANY centuries ago, before even what is occasionally termed the 'dim and misty past,' some such scene as this took place: A barbaric personage, carelessly wrapped in bear or deer skin, might have been seen standing on a ledge of rocks, casting out a line made of strips of untanned leather and weighted with a stone. For hooks he had carved pieces of hard wood with the points well sharpened, or perhaps fishbones, or the more primitive but still not disused thorn or straight piece of wood which was plunged into the bait and, when the line tightened, came athwart the throat of the unfortunate fish.

The ledge on which the man stood sloped gently into the sea and was covered with mussels and seaweed. Each time that he hauled in his line some projecting rocky edge or sharp-shelled mussel would catch it. Three times were his thongs of deer-skin cut. With each succeeding accident his face flushed with anger and became red as the unkempt, straggling, knotty beard which reached almost to his waist.

Then an inspiration seized him. Quickly ascending the cliff, he entered the forest, tore down a sapling ash, stripped it of leaves and small branches, and to the lissom end of it affixed his line. And now did the wild man cease to appeal to strange gods, asking what sin he had committed that his lines should be broken by the sharp-shelled mussels. For, regaining his position, he cast his thong into the heaving sea, and, when the untutored fish of those days swallowed the bait, he lifted them out by means of that ash sapling and no longer fouled the rocks.

Great was the pride of this barbaric personage, for he had made one step towards civilisation. He had become an Inventor. And the men of his tribe flattered him by making similar rods, for there were no patent laws in those days. Soon, wherever the rockiness of the coast was such that the line could not be cast out or recovered without entanglement or injury, there might men be seen with poles, some of them huge, almost as weaver's beams; for in those days there were giants in the land.

For the origin of rod fishing in the sea we must, then, go back to the first man who found he could not work a hand line on a rough rocky coast. I would venture almost to assert that he was the first *angler* as we now understand the word, for the old meaning—one who fished with the angle or hook—has long since fallen into disuse. The angler of to-day is a knight of the rod and none other. We do know with certainty that for many years rods have been used for sea fishing on the rock-bound coasts of Scotland and Ireland. The people in the remote parts of the Outer Hebrides are at least two centuries behind the rest of the world. As I found them using rods for fishing from the rocks, it is a fair conclusion that rods were used in sea fishing on other portions of the globe at least two centuries ago.

From boats we undoubtedly can fish without using a rod, and, moreover, fill our baskets; but from the shore, unless it be a sandy or muddy one, there is often no possibility of fishing on the bottom with weighted gear unless a rod is used. I have already shown in the previous chapter how, under certain conditions, the fly fisher—using the term as a salmon angler understands it—may have really good sport in salt water. Now I propose to deal with the slightly lower branch of fishing near or on the bottom of the sea, as it may be carried on from rocks and piers, from flat sandy shores, and in harbours and estuaries. Generally speaking, fishing of this kind is most successful during spring tides. I have never been able to make up my mind whether the reason is that the increased

current acts like a spate coming down a freshwater river, stirring up the food and setting all the fish a-feeding, besides reinvigorating them by the freshness of the water, as we are brisked up by a good blow from a north-east wind; or whether the powerful stream outside simply forces the fish to seek that shelter which they find in the slacker water close along the coast. Perhaps both reasons may be correct; but, whatever the cause, the fact remains that in many places the fishing is extremely indifferent from the shore except at the periods when the moon is either at its full or new.

It is a great fallacy to suppose that wherever there is a pier, or wherever there are projecting rocks, fish are to be caught. On many parts of our coast sea fish are exceedingly scarce, and there are not a few pierheads where half a dozen whiting pout, two baby flat fish, and a six-ounce eel would be considered a remarkable bag, though the whole weigh one and a half or a couple of pounds. Those who have never had better sport, among whom may sometimes be included the boys home for the holidays, are well pleased with such meagre results of their endeavours. Possibly, if they follow some of the instructions given in this chapter, especially with regard to the use of ground bait, they may even succeed in doubling the not very enormous catch which I have suggested. On the other hand, there are some piers, or the sea beneath, which in the autumn months yield enormous cod. Down on the South-west coast where the pilchard fishery is carried on, the pilchard refuse attracts into the harbours a considerable number of fish which yield sport to bare-legged fisher lads and skilful angler alike.

In the autumn our good friend the bass comes into many an estuary and harbour, giving the shore fisher a chance, and during summer months may be seen playing round the piers. I will not venture, as was done in a recent work on sea fishing, to recommend any of the piers jutting out from the watering-places near London as affording first-class bass fishing. But the fact remains that a few bass do occasionally show themselves beneath these iron structures, and are still more occa-

sionally caught. Even Brighton and Hastings piers, and less often the groins (particularly *early in the morning, when the water is thick after rough weather*), at times yield a bass or two, and the event is sufficiently startling to be deemed worthy of a prominent paragraph in the local newspapers. And I must say that these said paragraphs recur with greater frequency than of yore, doubtless because an ever-increasing number of anglers are giving their attention to bass fishing.

While for boat work the sea angler requires a rod rather short than long, for fishing from rocks and the shore the rod should err on the side of length. Even when fishing from a pier it is well to have as long a rod as can be conveniently handled, to keep the fish one has the good fortune to hook from bolting in among the old woodwork or iron girders beneath. Any long rod made as light as possible, having due regard to the necessary strength, is suitable for fishing from piers or similar positions; while for spinning or casting out any distance nothing is better than the excellent cane rods made with greenheart tops, such as are used by pike fishers at the present day.

Those who wish to avoid a multiplicity of rods may provide themselves with one made on the following lines: Let the butt and middle joint be of East Indian cane, and let there be two tops of greenheart. The longest top and the butt and middle joint should measure each five feet, which together will give a rod of fifteen feet. The second top should be only eighteen inches in length, and strong. It will be found useful for large bass, codfish and conger, and also for spinning. The rod measures with this top 11 ft. 6 ins., which is a very convenient length for spinning or casting out any moderately heavy tackle. To obtain a very long rod there should be an extra butt, four feet in length, which will fit on to the proper butt of the rod, making the whole rod (now in four pieces), with the longest top, nineteen feet. 'General rods,' which in their various combinations are sold as being suitable for salmon, trout, pike, stickleback or shark fishing, as the case may be, are often and properly condemned. They are only

good for any one of these things by accident. But the sea-fishing rod such as I have described is really a useful weapon put together in any of its three lengths. It should be understood that the extra butt is only required under special circumstances, and can as a rule be dispensed with.

A rod of twenty feet is an awe-inspiring, arm-wearying weapon to hold, and those who consult their comfort will do without it so far as possible.

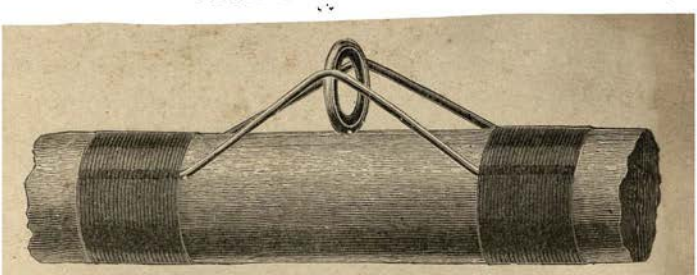
In this connection I may call attention to the Brobdingnagian weapons which are used at Biarritz by the natives for catching mullet, and are described by Mr. Senior in his very interesting chapter on Foreign Fish.

When buying a rod it is important to see that the winch fittings really do 'fit' the large reel which is required in sea fishing. As a general rule this little detail is neglected by

SNAKE RING

the tackle-makers, but of late years a number of most excellent winch fittings have been invented which, within certain limits, take any sized reel plate. Among others I call to mind the Weger, the Universal, and Warner's. The ordinary arrangement of rings, even when it fits a reel, invariably sticks sooner or later.

The snake rod rings shown in the illustration have come into very general use, and are excellent for most kinds of fishing, but there is a method of casting (not from the reel, but by drawing down loops of line between the rings and holding them on the fingers of the left hand) which cannot well be done if snake rings are fitted all down the rod, and therefore I would rather recommend for the two rings next the butt the use of the bridge ring which was illustrated in the volumes on Freshwater Fishing in this library and is here reproduced.



BRIDGE RING

A rod top end ring I invented, which is also illustrated, works on pivots and adapts itself to whatever angle the line makes with the rod. It has an inner ring of phosphor bronze which can be twisted round whenever it gets a little worn. For sea use it should be made extra strong. The pivots may appear to be the weak part of this ring, but I have had the invention on my rods for many years, and some thousands of them are in use, yet I never heard of a pivot breaking except when in the hands of careless workmen *before* being fastened to the rod top. If the ordinary top ring is used, it should most certainly be fitted with the inner ring or lining as shown in the left-hand illustration. The ordinary rings get cut into grooves very quickly, and the great object of the inner ring is that when a little worn it can be moved round and the wearing point shifted. I find, however, that the sharp edges of the inner ring, unless countersunk, are apt to cut or fray the line when it forms an acute angle with the rod, as when a fish has been reeled in and the angler is about to gaff it. This led to my inventing

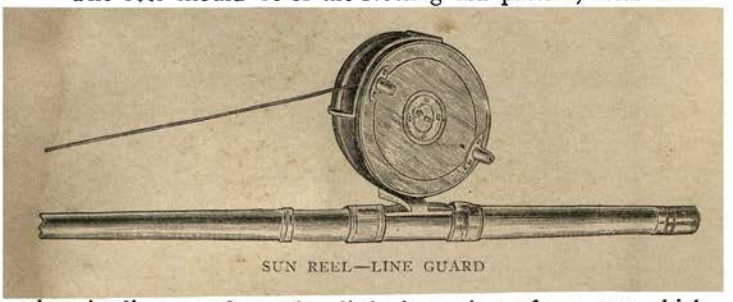
RIGID TOP RING WITH MOVABLE LINING

'BICKERDYKE' END RING

the ring working on pivots, which varies its angle with the angle of rod and line, and so prevents a very great deal of wear and tear. For use with very heavy leads the block or roller ring illustrated in Chapter VII. is preferable to either of the two described.

All rings should be *large and of equal size.* It is a great mistake to vary their size, making them smaller towards the top end of the rod. Ring and all other whippings should be of wire, the portion of the rod to be whipped first being served with fine thread. Over the wire a little soft solder can be run with advantage. This makes a very permanent fastening for the rings, &c.

The reel should be of the Nottingham pattern, fitted with



SUN REEL—LINE GUARD

the wire line guard, another little invention of my own which prevents the line uncoiling and overcomes one of the greatest drawbacks to the use of the Nottingham reel in the hands of beginners. I should also have a check which can be put on or off by moving a button on the back plate. The one shown in the illustration is Farlow's Sun reel. The back is lined on the inside with metal, which prevents the wood swelling and the parts sticking. It is fitted with my line guard. Of course, the better the reel, the better it will work. For boys' use from a pier where only small fish are to be caught, a small reel to hold fifty or sixty yards of line will answer all purposes ; but where bass or large mullet may be expected, then certainly not less than 150 yards of line should be on the reel, otherwise the angler may lose the largest fish of a lifetime and for ever after regret it.

If the reel is entirely of wood it should be taken to pieces, and either carefully painted inside with two coats of enamel paint or smothered with vaseline. Otherwise the salt water, which drips into and all over it from the long wet line, will be certain to cause the wood to swell and stick. If either of these precautions is omitted, and there is a stoppage, the best thing to do is to take the reel to pieces, wash it well in fresh water, and dry it slowly in a warm airy place in the house. Next rub down the parts which touch with sand or glass paper until the winder will revolve freely. Then possibly vaseline or enamel may be thought desirable to prevent a recurrence of the bother. Steel screws, springs, &c., are quite inadmissible on a reel for sea work. I have mentioned several of these matters in the following chapter, but they are sufficiently important to bear repetition.

Of all lines, I personally give the preference to a twisted silk Nottingham pike line ; but it must be borne in mind that this can only be used by those who have mastered the art of casting from the reel ; for if the twisted line (unless it has been dressed) be drawn in by the hand and allowed to fall in coils on the ground, it will certainly kink and entangle. Perhaps the beginner will be well advised to use an ordinary eight-plait dressed silk pike line. He can then cast from the reel, or cast in the Thames fashion, by simply having a quantity of line loosely coiled on the ground. When he has at odd times practised and finally mastered the Nottingham style of casting, then he can take to the twisted, undressed Nottingham lines, which are not only cheaper than the plaited, but stronger and best suited for that method of angling. Of course, where the fish run very small, lighter lines than those I have recommended may be used.

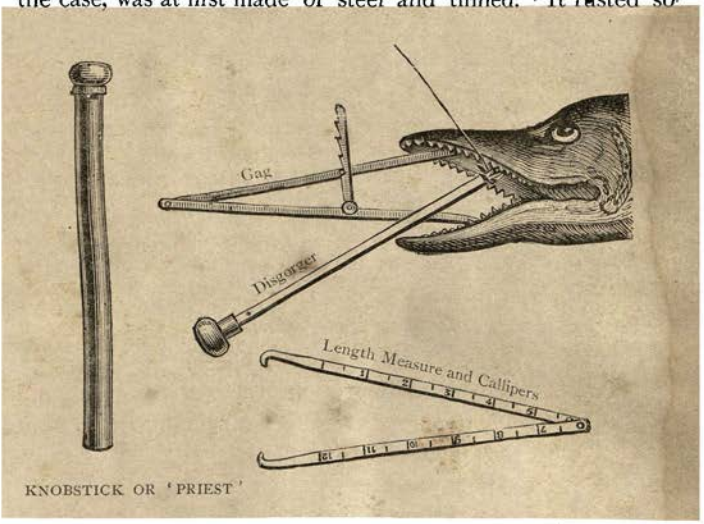
Among the sundry impedimenta, the most necessary is a long-handled gaff. For large fish a roomy creel will, I hope, be found useful ; at any rate, it will carry the lunch, and, if it be constructed after the pattern of my own, is a useful seat.

When fishing from rocks and piers it is very necessary to have something at hand with which to kill the fish as soon as

caught, particularly eels, otherwise they are apt to slip back into the water. The most annoying incident of the kind that ever occurred to me was not in salt water, but in fresh. The story is worth telling on account of the remarkable sagacity and determination exhibited by a pound trout. I had been casting down a small stream which ran into a Sutherlandshire loch, and had caught this solitary fish. I then removed my shoes and stockings, waded into the loch as far as I dared, leaving my creel with the fish in it on the shore, about ten yards from the water's edge. The trout were rising pretty freely, and what with them, and the midges which formed a black band round each leg between the water-line and my rolled-up knickerbockers, I gave little attention to things on shore. Hearing a slight noise behind me, I looked round and saw the lid of the creel spring up and then fall back again. The trout had evidently given a leap and hit the basketwork above it. It continued its efforts, and presently the lid flew right open. A second or two later out jumped the fish on to the sandy shore. I was some little distance out in the loch, catching trout and holding them in my landing net, so did not think it worth while to return to the bank after this runaway, which very quickly by a series of leaps reached the water. I had, as a matter of fact, called to the gillie, but he had taken off his coat, covered his head with it, and plunged into a great mass of heather to get out of the way of the midges, so he pretended not to hear me. Moral: kill your fish as soon as caught. It is both humane and profitable to do so. Employ midge-proof gillies; if they exist.

Some years ago I worked out a little instrument in the nature of a 'Priest,' to use the Irish term, which not only slew the fish, but held his mouth open, took out the hook, and measured him when all was over. We have not yet arrived at the stage when sea fish under certain limits of size have to be returned by the angler, though certain limitations have been here and there placed upon netsmen; so the measure need not count; but the other instruments are useful. In the illustration it will be seen that my own particular 'Priest' (in

addition to the knobstick which performs the last office for the dying—hence Paddy's name for it) contains a disgorger, one end being sharpened so that it can cut out the hook if need be, and also a gag which is of no small service where a conger has to be dealt with, but which at the moment is busy with a fish of some new species. This gag—an opener rather than a *closure*—if reversed, is serviceable as callipers for gauging the dimensions of specimen fish. The instrument, excepting the case, was at first made of steel and tinned. It rusted so




KNOBSTICK OR 'PRIEST'

quickly as to be unfit for sea or, indeed, freshwater fishing. I have now prevailed upon the makers, Warner & Sons (who shared the error so common among tackle manufacturers that tinning was a preventive of rust), to make the 'Priest' from top to toe of brass. I had one of the first made for me electro-coppered, and it answered admirably.

Next to fly fishing, the highest form of saltwater angling from rocks and piers is undoubtedly spinning for bass and pollack. The tackle is almost identical with that which we should use for pike, except that in the case of pollack the trace must

be weighted heavily enough to bring the bait near the bottom, unless it be evening, when these fish rise to the surface.

Bass, on the other hand, very often feed close to the surface, not far from the shore; so that for them little lead is necessary, only enough, indeed, to enable the angler to cast his tackle with accuracy and to a sufficient distance. I doubt if there is anything better for the trace than twisted gut. The length between the lead and the running tackle should be about eighteen inches, and between the lead and the other end of the trace three feet or a little more.

In the chapter on Fishing from Small Boats I have very carefully described the best forms of lead, and the position in which the swivels should be placed. The various kinds of bait which may be used have been described in a chapter particularly devoted to them, and the tiro should very carefully study the remarks on bass, pollack, and other fish which come near the shore, to be found in the chapter more particularly devoted to surface-swimming fish.

Suppose now that the angler is standing on some rocky point—a well-known haunt of bass, best fished at spring tides—and the tide is rising. There is a gentle breeze blowing on the shore, causing a slight rippling of the surface, and all conditions are favourable to sport. Taking the spinning rod in his right hand, he should unroll on to the ground thirty or forty yards of line, and hold the line near the lowest ring in his left hand. The trace and about three or four feet of line should be dangling from the end of the rod. He should then make his first cast and, as the bait flies out over the water, let the loose line pass through his left hand before it enters the rod rings. The first cast or two should be short ones. The length can gradually be increased as confidence and skill are acquired.

When the bait touches the water, the angler, if bass are about, should at once draw in the line quickly with his left hand, letting it pass between the first finger of his right hand and the rod. Between each draw the rod should be pulled away from the sea, so that a *constant motion* of the bait is kept

up. In other words, there should be first a draw of the left hand, and as the left hand comes from the rod down to the left hip, the point of the rod should be brought round a little seaward; then while the left hand is coming up for a further draw of the line the rod should be brought landward. If these alternate motions are maintained, the bait will be kept in continual motion. For bass the bait should be worked rather quickly. For pollack a slower spin is better, and before any attempt is made to draw in the line, time should be given for the bait to sink nearly to the bottom. The exception to this rule occurs, as I have already stated, in the evening, when pollack are often found near the surface.

There is one considerable objection to casting in this manner for bass. If while we are drawing in the line a fish of this species suddenly seizes the bait and makes a gallant rush seaward, as likely as not some of the line on the ground at our feet will twist up into a small knot and foul the rod rings or get caught in the toe of our boot or on a button, and in an instant there is a lamentable smash. For pike fishing the method which is common on the Thames answers well enough, because pike do not, as a rule, make any considerable rush when first hooked, as do salmon, trout and bass. Unfortunately the difficulties of casting from the reel in the Nottingham fashion, which for sea fishing is undoubtedly superior to the Thames method, deter many people at the outset from learning not only a very useful but a very pleasant branch of angling. No one, however, need dread the difficulty of casting from the malloch reel described on p. 180. But I certainly prefer Nottingham gear myself.

After all it is only the first rung or two of the Nottingham ladder which presents any difficulty. After they have been surmounted the rest is easy, and proficiency soon comes with practice. Early attempts at casting from the reel should certainly be made in a lonely place where men, trees, houses, animals and beasts are not. Even a small dog standing twenty yards behind the angler who is making his first cast in an

opposite direction would not be safe. Let the first day's practice be on some desolate sandy shore at low tide.

The rod should not be too stiff, for the spring of it will help the cast. The rings should all be large; the line of pure silk lightly twisted and undressed, and the reel should be well made. Cheap Nottingham reels are apt to revolve untruly, and the unseasoned wood soon warps. The reel may be fitted with an optional check, which when the cast is being made should be thrown off. It is obvious that a large reel requires more force to set it revolving than a smaller one made of the same material, but having once started, it continues revolving for a longer time than a reel of less circumference. Two things follow: In the first place, the small reel is best suited for casting lightly leaded tackle, while a large reel would require checking with the finger towards the end of the cast sooner than a small one. As a rule, one or two ounces of lead will be required on the trace used for spinning[1] from the shore. In deciding this point, the additional weight of the bait, which if of metal may be half an ounce or more, should be taken into consideration. It is a great thing to know one's weapons. The expert caster becomes as accustomed to using his own particular reel as a shooter does his gun. In sea fishing so much line is usually required that small reels are generally out of the question. For casting light weights it is therefore desirable that the drum of the reel, though large, should be of a light material. Some day we may see them made of aluminium.

It is not altogether easy to give satisfactory instructions in writing for casting from the reel in the fashion known as the Nottingham, which practically originated with the anglers of the Trent; but anyone who closely follows the directions hereafter furnished should, after a little practice, acquire the knack of it. Assuming that the beginner is a right-handed man, he should stand with his left side towards the sea, and hold the rod

[1] I use the word 'spinning' as the term is a technical one understood of anglers. As a matter of fact several of the natural baits cast from the shore for bass and pollack do not and need not spin.

with the right hand above the reel and the left hand below it, pointing the rod along the line of shore and rather away from the sea than towards it. The rod should be a little above the horizontal, not much. The first finger of the left hand should be pressing against the rim of the reel to prevent it revolving, and the line should be wound neatly on the reel until only five or six feet of line and trace together depend from the point of the rod. The rod should then be waved back and checked for an instant, when the bait will swing pendulum-like backwards and upwards. As it reaches the full height of its swing, the rod should be brought smartly forward in the direction the angler wishes to cast, and the reel released by removing the first finger of the left hand. I do not pretend to say what the bait will do at this first cast. The line may twist round the angler's neck. When success meets his endeavours, and the leaded trace is seen flying out over the sea, like a rocket shot from a life-saving apparatus, then comes the most important and delicate task of all—namely, to check the reel at the right instant and to put on the pressure of that first finger of the left hand slowly and gradually.

It is a very free-running reel, mind; and, on being started with a jerk, soon revolves infinitely faster than is required by the line which is leaving it. In anglers' language, it will 'overrun' unless slightly checked. The bait steadily loses way, but the reel keeps whirling round at an enormous rate, and the most fearful entanglement will ensue if its speed is not diminished. When the bait has passed halfway on its course through the air, or sometimes a good deal less, the first finger of the left hand should gently touch the rim of the reel and put on a slight drag, stopping the reel altogether just as the bait touches the water. The drag is not intended to check the bait, but simply to cause the reel to revolve only just so fast as is required to feed line to the bait which is passing through the air.

For the first day or two it is as well not to attempt any long casts, and it is far better to put too heavy a drag on the reel

than too light a one. Not only has the art to be acquired, but the particular reel the tiro is using has to be learned. I made many a bad cast with a new rod or reel until I got into the way of it, and am not ashamed to confess it, for it is the experience of most fishermen.

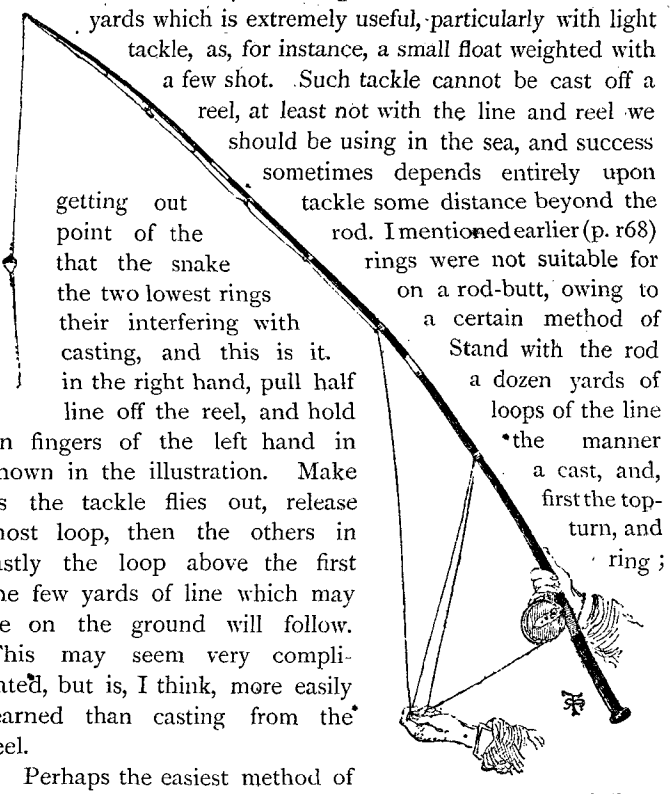
When the cast has been made the next thing to do is to reel in the line quickly until the bait is brought right up to our feet. The butt of the rod should rest on the left hip, the left hand now holding the rod above the reel, on to which it guides the line, while the right hand does the winding. It will be noted that when making the cast, I directed the right hand to be above the reel and the left hand below it. This, though it necessitates a shift of the hands when winding in begins (unless the reel is reversed and wound in with the left hand), will be found most convenient by the majority who have more power and command over the right arm than the left. But those who are not too right-handed (I know men who fly fish as well with the left hand as the right) will certainly be well advised to practise casting from the reel holding the left hand above the reel and the right hand below it, with the first finger of the right hand checking the reel. When winch fittings are some distance from the lower end of the butt, which involves one hand being held a few inches below the reel, the checking may be done by the little finger of the hand held above the reel. This seems a complicated matter in letterpress, but is simple enough in practice.

The tackle should not be taken out of the water until it is close to the edge of the rocks, for fish frequently follow it, seizing it at the last moment. When a bass takes a bait offered to him Nottingham fashion and makes one of his grand rushes, there is no loose line to catch in anything, and the fish may be played on the reel, just as one would play salmon or trout.

The beginner will do well, as soon as the fish is on, to push up the button, which has the effect of turning the reel into a check ; but those who are used to the Nottingham reels put on any drag they require by keeping a finger on the rim of the

reel. When it comes to gaffing the fish and holding the rod in the left hand with the butt on the thigh, then the little finger of the left hand, which will be above the reel, comes down to the rim of its circumference and prevents it revolving.

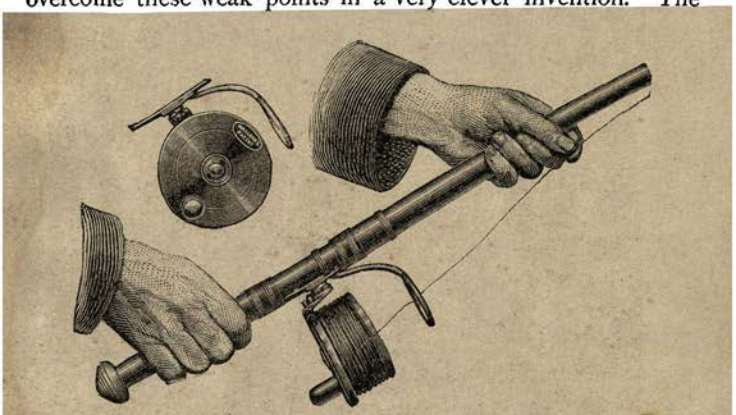
There is a method of making short casts of ten or fifteen yards which is extremely useful, particularly with light tackle, as, for instance, a small float weighted with a few shot. Such tackle cannot be cast off a reel, at least not with the line and reel we should be using in the sea, and success sometimes depends entirely upon getting out tackle some distance beyond the point of the rod. I mentioned earlier (p. 168) that the snake rings were not suitable for the two lowest rings on a rod-butt, owing to their interfering with a certain method of casting, and this is it. Stand with the rod in the right hand, pull half a dozen yards of line off the reel, and hold loops of the line on fingers of the left hand in the manner shown in the illustration. Make a cast, and, as the tackle flies out, release first the top-most loop, then the others in turn, and lastly the loop above the first ring; the few yards of line which may be on the ground will follow. This may seem very complicated, but is, I think, more easily learned than casting from the reel.



METHOD OF CASTING OUT LIGHT TACKLE

Perhaps the easiest method of casting is by means of the malloch reel. Mr. Geogehan, of the British Sea Anglers' Society, uses this reel with great effect on the East coast, casting out his tackle a long distance and catching many large cod. The cast is made from the reel,

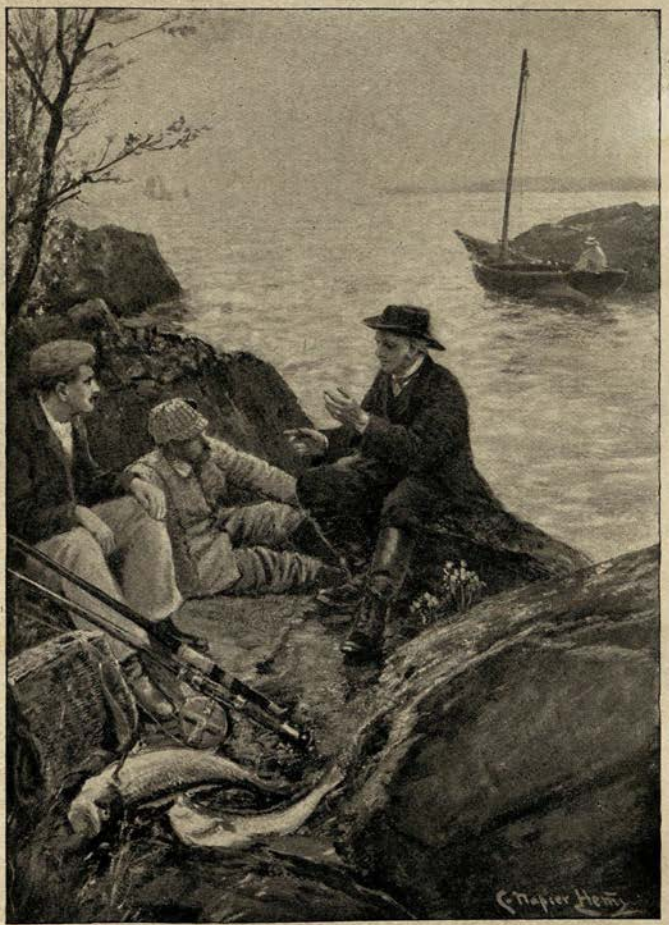
but instead of the drum revolving, it is twisted at right angles to the rod before the cast is made, and the line is slipped off it sideways. This has the effect of putting twists into the line, but by a judicious use of swivels this drawback is to a great extent overcome. Owing to the support to the drum working on a pivot in the foot or plate of the reel, when a heavy weight was being wound in, the drum was apt to wobble a little. I understand, however, that recent alterations have been made in the mechanism of the reel which tend to overcome these weak points in a very clever invention. The



MALLOCH REEL

kinking is evaded by occasionally removing the drum of the reel and turning it so as to make the line slip off it the other side. This reverses all the twists in the line, but involves winding the reverse way, which requires some practice. An improved pivot is now used which, so the maker alleges (I have not had an opportunity of trying it), prevents the reel from wobbling when a heavy fish is being played.

When fishing from high piers, casting is anything but a convenient method of working the bait, owing to the distance of the rod from the water. For bass and pollack it is not, as a rule, necessary to cast from such places, because these fish are




'ON A PRECIPITOUS ROCK'

found close to the piles of pier, jetty, and the like, and many of them are caught by simply sinking and drawing the bait through the water, or even by walking up and down the pier and trailing the bait. A live ragworm has been the death of many a pollack in such places, and a small sand-eel, a strip of mackerel-skin, or a few oyster beards are all killing baits for midwater or surface fishing.

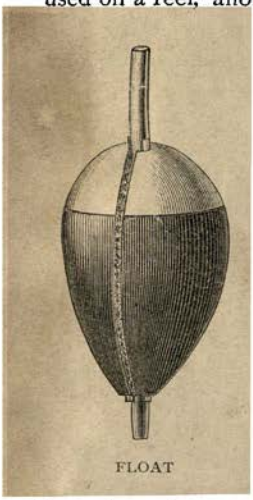
There are three typical positions on a rocky coast. The angler may find himself standing on a precipitous rock with deep water just under his feet, and is, as regards the fish, much in the same position as if he were in a boat; that is to say, he can fish right underneath the point of his rod, and may use a paternoster or float tackle whether the bottom be rocky or sandy. If it be rocky and covered with seaweed the lowest hook of the paternoster must be placed two feet or more above the lead, so that it may play well above the weeds. The angler may, of course, use an ordinary paternoster if only he be careful not to lower the lead too near the bottom. Once having ascertained the depth to which the lead should be lowered in such places, it is a good plan to tie a small piece of cotton round the line and unreel no further, readjusting the cotton from time to time as the water rises.

What I may term the second position is when there is a sandy bottom coming right up to the base of the rocks. Then, of course, the angler can fish in any way he pleases—on the bottom, in midwater, or near the surface.

If the rocks stretch away for some distance, and the fish are, say, fifteen or twenty yards out to sea, then to cast out bottom tackle—by which I mean tackle which lies on the bottom—among these rocks and seaweeds would be simply folly, as it would be lost to a certainty; the only plan, then, is either to spin or to use float tackle.

On the construction of float tackle there is not a great deal to be said. The size of the hook and the strength of the gut necessarily depend on the fish we expect to catch, and the size of the float is regulated by the weight of leads which it is

desirable to use to keep the bait near the bottom. If we have to cast out a long distance, a large pear-shaped cork float and at least an ounce of lead on the line will be required. But there should be two clear feet of gut between the lead and the hook; that is important. Round rocky points where the tide sets strongly float tackle can be cast out, and the line being used on a reel, allowed to run out with the current. It will probably be brought round into the eddy on one side of the rocks, working almost to the feet of the angler.



FLOAT

A handy float, named after the 'Fishing Gazette,' is shown in the illustration. It is as useful in salt as in fresh water, and is most easily put on or taken off the line, which has only to be passed through the slot in the side of the float and pegged in the centre.

If the water is deep, it may be asked how float tackle can be used? By a clever little contrivance, known as the Slider float, which is explained on p. 231, almost any depth, within reason, can be fished. I have also illustrated on pp. 218 to 224 the various forms of paternoster tackle. Generally speaking, for shore fishing there is nothing better than the paternoster illustrated on p. 218, and made of salmon gut or twisted gut with two hooks on single gut placed eighteen inches apart, the lower one six inches or less above the lead. The hook links may be about seven inches in length, the lower one double that length if there are flat fish about.

When fishing under the point of the rod for codling or whiting, it is a capital plan to fix a pipe lead on the end of the line, and below it a yard of gut on which are two hooks (eighteen inches apart) baited with mussels, lugworms, or pilchards, &c. The depth must be ascertained with considerable care, and just so much line unreeled that the end hook is checked close

to the top of the seaweed. I have caught many codling with this tackle. If large fish are about, one hook is sufficient, as, if two are used, the one on which the large fish is not hooked will as likely as not catch in the seaweed or rocks.

From piers either paternoster, float tackle, or the pipe-lead tackle just described may be used. With float tackle the baits can, of course, be worked away from the pier with the tide. When flat fish, whiting, or codlings are expected this is a great advantage, as a considerable expanse of fishing ground can be covered. But the best all-round tackle is certainly the paternoster, for on it the slightest bites can be felt and, owing to the line being taut, the fish can be struck immediately. With float tackle the bites are not perceptible when there is any wind unless the float is drawn under water, and not always then ; and by the time the angler strikes, the fish has perhaps discovered that the bait contains a hook, or has ascertained from the resistance of the float that something is wrong.

A very deadly tackle for casting out some distance is the upper paternoster shown on p. 222, the lowest hook link lengthened to two yards and furnished with two or three hooks. It is very good on a sandy or muddy bottom where flat fish, codlings, or eels are present. I must confess, however, that I do not like a number of hooks on my tackle. They perhaps appear to catch many fish, but in the long run so much time is lost by baiting them and clearing the various entanglements to which complicated arrangements of the kind are very subject, that, after all, the more simple tackle often catches most fish in the course of the day.

Where a very strong tide runs round a pierhead, a drift trot can easily be set. There is no lead at the end of this piece of tackle, which, in fact, is exactly like our paternoster with the lowest hook link elongated to four or five fathoms, and bearing short hook links at every foot or eighteen inches. First of all, the end hook is lowered, and then, as the tide takes this rosary of hooks away from the pier, more line is let out, till finally the lead of a pound or two is gently dropped into the water. Of

course, there is little or no sport in this method of fishing. A more detailed description of a drift trot, and illustration, will be found in Chapter VIII.

The fish which are most usually found round piers on the South coast near London are whiting pout, rock fish, small whiting, and flat fish. For large whiting we must, as a rule, go into deeper water. In some places, pollack are fairly plentiful; in others, where the bottom is muddy, nothing but flat fish will be caught. But wherever we may be, there is always a chance of a nasty little wriggling eel which leaves bars of slime on Master Tommy's blue serge suit and threatens Aunt Jane with hysteria—or, should I not say neurasthenia?—and, after twisting round and round until line, hooks and lead are one inextricable mass of kink and slime, nips through the gut, wriggles tail foremost through a hole in the staging, and drops quietly, smiling to itself the while, into the salt sea.

From the economic point of view, the smelt is perhaps the best of all the fish which are found round pierheads, for they are distinctly edible. Of them more when we leave the pier and make for the harbour. Now and again a goodly plaice will fall to the lot of the pierhead angler, particularly if the pier be not far from the town drain; and when the big cod are inshore in late autumn there is always a chance of one of these fish. But for cod, go to the East coast.

In summer-time when the water is very clear, and a fringe of unproductive lines depends from the steamboat staging, I have not the least doubt that sea fish, like their cousins of the rivers and lakes, become somewhat suspicious of baited hooks. Then the ground-bait net will be found of great advantage. One of the best mixtures for ground bait is the common green crab, particularly in its soft state, pounded up with raw potato into one big mash. Sink this in a piece of netting, by means of stones, near the bottom, and fish close to it, giving the netting a good jerk occasionally to shake out some of the contents. If there are any fish about, they will most certainly

begin feeding round that net, and if your hook is baited with soft crab, it will surely be taken before long.

Ground bait has two characteristics: not only does it collect fish, but it brings them on the feed. Let us try to imagine ourselves a fish. We have been feeding, say, on shrimps and small marine insects, and, having about cleared the table, have ceased our repast. Suddenly there appears in front of us a mangled lugworm, screwed up on a hook, and suspended in the water in a very unnatural position. We eye the thing with suspicion. What reason has a lugworm to be hovering over the rocks which pave the bottom of the sea, like some humming bird over a flower in a tropical garden? But presently there comes through the water a shower of lugworms, and our suspicions vanish at once. 'This queer-looking worm is, after all, only one of a quantity,' we think; and, swimming hastily about hither and thither, pouching the luscious morsels, we suddenly find that we have inadvertently swallowed the hovering lug, if I may so term it, are hauled up bewailing our stupidity, and lifted over the gunwale of a boat or on to the stage of some pier or other.

In the same way we regard solitary lumps of soft crab in a hovering state as somewhat suspicious objects, especially at a place where we know hundreds of our brothers have been slain, thanks to their greediness. But when a number of fragments of this most delicious dish—than which there is no better in our dietary—when fragments, we say, of this most delicate food come floating away with the tide from a stupendous mass of it which now and again shakes itself, giving off sweet fragrance, then we all hasten to the feast bountiful Providence appears to have prepared for us, and sooner or later one of us pays the penalty.

Imagine a man walking through a forest and suddenly coming upon a mutton chop daintily arranged on a silver plate! I don't believe he would eat it. He would think it was poisoned, or something or other wrong about it. But if as he went on he came upon numbers of such carefully grilled,

hot, and gravy-yielding mutton chops upon similar precious platters, I venture to say he would very soon taste one of them and make a hearty meal. Maybe that is the view fish take of the matter, or else how can we explain the great success which so often attends the use of ground bait, both in fresh water and salt? In fresh water I am certain fish are brought on the feed, rather than merely collected, by the use of ground bait; of this I have absolute proof. Over and over again have I cast my baited hook among fish which I could see, and not one would look at it till I had distributed handfuls of ground bait amongst them. Then, and not before, they came on the feed, and after a minute or two one would be caught.

There are many recipes for saltwater ground bait. That given is one of the best. As a matter of fact the angler will be well advised to take whatever he can get in the way of fish-offal, shell fish, lobster shells, oyster shells, small mussels and mussel shells. One of the most collecting ground baits he can use consists of the oily livers of fish, and particularly the entrails of pilchards. These latter, by the way, are excellent baits for many kinds of sea fish, though somewhat difficult to keep on the hook. There is more on this subject on pp. 120–123.

Now, leaving the rocks and the piers to the boys, let us take a stroll round the harbour and see what sport is there afforded. There are harbours and harbours. Some into which rivers flow are so fearfully polluted with chemicals from manufactories, gas works, and the like, that no fish will be found in them. From a fish's point of view ordinary town sewage is unobjectionable if kept within certain reasonable limits. The best harbours are usually those not too much polluted, and frequented by fishing boats, from which are cast all and sundry odds and ends of refuse attractive to fish.

Of course local information is very necessary. It is obviously no use fishing for bass in a harbour where none are ever found. The old sailor who haunts all harbours, if judiciously approached, will generally dole out items of information which

will put us on the right track. Bass, small pollack, codlings, flat fish, smelts, grey mullet, may all be inquired after, but cautiously, for if too many questions are put your 'informant's mouth will close with a snap on the stem of a short clay pipe, and nothing more is to be learned from him that day. Your ancient mariner is a suspicious person, and above all things dislikes to be pumped.

Sometimes mackerel visit harbours. I remember, late one evening—or rather I should say early one morning, for it was about two o'clock—how, returning from conger fishing at Tenby, so shallow was the water, owing to the spring tide, that I had to anchor my boat some forty yards out and walk ashore. It was a dark night, but the waters were brilliant with phosphorescence, and I suddenly found myself wading through a large shoal of mackerel. The fish dispersed hurriedly. Little bars of incandescent silver leapt out of the water before, behind, and all around me, and as they fell again raised a shower of sparkling phosphorescent fires. It was a brilliant and very lovely sight. An evening or two later I was in the harbour at high water, and saw small mackerel swimming among the fishing boats which lay at anchor, for there was no wind. It was an easy matter to catch some of these fish with a small spinning bait; a Devon minnow I think I tried. This had only to be cast into the water and drawn a yard or two when half a dozen fish would rush at it.

At night-time large bass sometimes come right into the harbour among the fishing boats and are occasionally caught, but the bait must be such a one as they would expect in such a place. Something tasty, yet not over-nice. Skate's liver a little 'high'; or the inward parts of chicken or rabbit, well hung. If the water is slack, there should be no lead on the line.

From the enthusiastic angler's point of view, one of the most important fish found in harbours is the grey mullet. I devote an article to this most shy of sea fishes later in Chapter XI., so this is hardly the place to detail his peculiarities and the

methods of catching him or fishing for him. But let it be said here that the surest time to find him feeding is in the grey dusk of early dawn, and the tackle, which may be a paternoster or the ordinary float tackle, should be both fine and strong. Ground bait is most necessary.

A well-known bass fisher once related to me with tears in his voice how, when bass fishing, his hook being covered with skate's liver, a mullet which weighed at least 12 lbs. seized his bait, ran out every yard of line, and then broke the triple gut.

No one who has ever fished for mullet will assert that sea fishing does not require skill. I am inclined to say that a mullet of any size is no more easy or more difficult to catch than a carp of the same age. Of course the youngsters, foolish, ignorant, simple little things, like carp at the same period of their existence, come to the hook readily enough. But the adult mullet is certainly no fool. The lesser grey mullet is more easily captured than the larger variety.

Smelts are found in most harbours, and it is pretty work fishing for them with the lightest roach tackle and roach hooks baited with tiny fragments of uncooked shrimps or soft crab, the latter for preference. Whatever bait is used, a little ground-bait of the same kind chopped or minced up very small should be thrown in every few minutes. A dessertspoonful is enough at a time, for the object is not to feed the fish, but simply to keep them on the feed or look-out for food. The lightest and finest tackle is necessary for these small fish, and either a paternoster with four or five hooks can be used, or roach tackle with the same number of hooks. A porcupine quill float with a couple of shot to sink it is quite heavy enough. The hooks can hardly be too small; in fact, few seaside tackle-makers sell them small enough or on sufficiently fine gut. The weight at the end of the paternoster should not exceed a quarter of an ounce. A toy bamboo rod, running line of fine plaited silk, two yards of fine-drawn gut, a dozen roach hooks, a quarter of an ounce of lead, and the smelt fisher has the necessary tackle.

In the Solent and other places thousands of smelts are

SMELT FISHING FROM THE CUSTOM-HOUSE PIER AT COWES

caught by means of small meshed nets extended on an iron hoop and let down into the water by means of a stout pole. Shoals of these fish can usually be seen swimming about. It is not advisable to let the net down very deeply, or the fish will be off before it can be pulled up, though it must, of course, be deep enough for them to swim over it; the depth depends very much on the place, colour of the water, light, and perhaps other considerations.

If the smelts can be found in shallow water where the net can rest on the bottom, so much the better. The pole must be kept very still, because any motion of the ropes which support the net has a tendency to frighten these little fish. To bring the smelts over the net it is customary to cast in crabs and raw potatoes bruised up; in fact, the ground bait I have already recommended for a variety of fish. The net, as soon as the fish swim over it, should be hauled up steadily but quickly, and its contents shaken into a basket.

In late summer and autumn quantities of young sprats and herrings, better known as whitebait, and in some places myriads of sand-eels, come into many harbours and estuaries, and are often to be seen swimming round steep rocks and along the open coast. They are invaluable as bait, being taken readily by nearly all sea fish. The whitebait are often caught in quantities in these round nets; in fact, the professional whitebait fishers often use a very similar contrivance, but on a much larger scale. Of course this method of catching smelts can hardly be termed sport in any sense of the word; but I refer to it here because these delicate little fish are not only excellent for the table, but are good baits for sea fish on many parts of the coast. For instance, they make excellent spinning baits for pollack, and where they can be used alive are a deadly bait for bass.

The hoop net to which I have referred is exactly like the minnow net used on the Thames, but larger. A strong man can use one four or five feet in diameter, but a boy would not be able to lift so large a net quickly through the water; so

boys must satisfy themselves with something two-thirds of the size, or even smaller. For this method of fishing, a small net raised sharply will catch more fish than a large one raised slowly.

Small whiting pout and pollack and whiting require tackle just a little stronger than that used for smelts, but if there are any large flat fish in the harbour, such as, for instance, one would find at Lowestoft or Scarborough, then the tackle must be fairly strong, and what is commonly called lake-trout gut must be used. In my very youthful days, before I had even got into trousers, I remember my big brother lamenting the loss of a huge Yarmouth avonbutt, as flounders are, or were, called locally, hooked in Lowestoft Harbour on fairly strong tackle, which it broke.

In estuaries, and particularly in harbours where shrimps are sifted, a live shrimp hooked by the tail is one of the best baits for flat fish. Next to that, perhaps, ranks a peeled, unboiled shrimp. Lug and rag worms are always killing baits, better even than the usually useful mussel.

Some shallow inshore waters swarm with small flat fish not larger than one's hand, and the angler, if so disposed, may fish for these with what I have termed the paternoster-trot, illustrated on p. 222; soft crab or ragworms being about the best baits. Mussels are also good; but, so far as my experience goes, a bait that will kill in one harbour is sometimes almost useless in another, so that local knowledge is very valuable, and, as I have pointed out, should be acquired at the earliest opportunity.

I have had excellent sport fishing from the beaches and sands of the East coast in autumn, when the codling come inshore. There is a tackle peculiar to that district, known as the 'throw-out line,' which, if not so killing as a paternoster tackle, deserves mention here.

At the end of the line proper is a piece of finer line, eight feet in length and about as thick as common whipcord. The lead weighs about a pound, and is fixed to the whipcord (I will

EAST COAST THROW-OUT LINE

call it so for convenience) by means of a strip of leather put through the hole of the lead. At the other end of the whipcord is a button. The hooks begin at the end of the main line, and may number from six to twenty or even more; they are fixed on snoods seven inches long and placed fourteen inches apart. A necessary part of the tackle is a broom handle[1] six feet long with a cleft cut at the end of it, and the whole line when not in use is wound on a winder similar to that shown in the illustration, there being a strip of cork along the top of it in which to fix the hooks. The two side pieces of the winder are eighteen inches in length, and they are placed eight inches apart.

This tackle is used in the following way. The line is uncoiled and spread out in S-shaped curves on the beach, the landward end of it being fastened firmly to the winder, which is stuck into the sand. The hooks are then baited, and if mussels are used these are often tied on by means of a piece of yarn, thread, cotton, &c. Scotch fishermen use a fragment of wool for the same purpose. Lugs are perhaps the best bait; mackerel and squid are also good. The line being baited, the button on the end of the whipcord is placed in the cleft of the stick. The exact position of the lead on the whipcord must depend on the height of the caster and the length of the pole, a short man having to slip it up rather nearer the button than a tall man.

By means of the pole the lead is now swung backwards and then pitched forwards, not too straight, but rather up in the air, for the weight and the line has to be raised. It is not always necessary to cast out a great distance, for sometimes fish will be feeding close along shore.

If only one line is used the fisherman will, of course, hold it in his hand, and immediately he feels a bite haul it in. If he has two lines, it is a common practice to fasten the end of one to a supple wand six or seven feet long, which has been

[1] With a not too stout ash stick which has some spring in it a longer cast can be made than with the stiff broom-handle.

stuck upright in the sand. By watching this wand the fisherman can at once see if he has a bite from a fish of any size. The method by which this tackle is pitched out is decidedly clever, and I have no doubt the baits can be projected a greater distance than can a paternoster. But after all it is a very rough-and-ready kind of fishing, much akin to the laying of long lines, for either the fish hook themselves or escape with the bait—more often the latter. If mussels are used as baits on these lines, a dozen hooks will be robbed for every fish caught, and this simply because the fish cannot be properly hooked when they bite.

I have had many opportunities of contrasting the results obtained by fishing with rod and paternoster and these throw-out lines. The more scientific tackle has invariably beaten the older method out of the field. I have already mentioned in the introductory chapter how one October day I stood between two persons who were using throw-out lines each bearing thirteen hooks. I fished with a paternoster, and my two hooks caught many more fish than were taken on the twenty-six hooks on my neighbours' lines; yet we were using the same baits and were fishing within a few yards of one another. I, of course, was able to detect the slightest bite; could at once strike and hook the fish. Possibly, too, my finer tackle had something to do with it; though I doubt if cod in the thick water of the East coast exhibit any appreciation of our efforts to please them in the way of fine tackle. Certainly my hooks were superior, for they were of the kind used in fresh water, and much sharper than the tinned abominations which for years have been used in the sea.

A paternoster suitable for this method of fishing may be of single gut if the codling run from one pound to five pounds; but if anything much larger is expected, twisted gut should certainly be used, for the angler may have to deal with a fish of twenty to thirty pounds. The right sort of paternoster is illustrated on page 218. When I first practised this kind of fishing I used to think the great point was to cast as far as possible, long

casting being a weakness common to most young fishermen, who always think the fish lie mainly under the opposite bank of the river or the other side of the Atlantic. But I had a very wholesome lesson one evening. I had gone down to the shore after dinner, taking my rod and a few mussels, and fished for a good hour without getting a solitary bite. I was just giving up in despair when three little urchins, the eldest of whom could not have toddled on this earth for more than ten years, came trotting down the beach. One of them had a penny ball of string; another a hook tied on gut; while the third produced three mussels. Twine-makers do not give us much string for a penny; so the line was very short, and after a stone had been fixed to the end of it and the hook tied on and baited, the most the little fellows could do was to cast their bait a yard or two beyond the point where small waves were breaking on the shore.

I do not know if my face bore a pitying smile, but I certainly felt that way, and was searching my pockets to see if I had not a piece of string which could be attached to the youngsters' line, when, behold, the eldest raised a scream of delight and hauled in a codling of about two pounds. I was distinctly humiliated, but was not too proud to profit by the lads' experience; so I quickly reeled in my line and made a fresh cast, placing the paternoster just over the line of little breakers. There the fish were in thousands, I should say, for hardly had the bait reached the bottom before I had a bite. I continued pulling out fish one after the other until I had about a dozen and a half, when I had to return to the town. I think the boys caught two or three more; but, being thankful for the lesson they had unconsciously given me, I presented them with most of my codlings.

After that experience, whenever I found the fish were not feeding at the usual distance, I would wind in a few yards of line; then wait a minute or two, and if no bite came, wind in a few more yards and wait again; and so on until the paternoster was brought right up to the shore. This movement of the

paternoster was, in fact, a thorough searching of the fishing ground, and it had a secondary advantage, for the slight motion given to the baits often made the fish bite when they were not very well on the feed.

The rod for this kind of fishing should not be too short, as if there are any waves it is necessary to hold the line above them. If this cannot be done, when the waves break, each mass of water strikes the line and the paternoster is jerked shorewards.

When the fish are supposed to be plentiful it is certainly desirable to have a large number of mussels ready opened for continued fishing. I have often heard it stated that mussels lose some of their virtue and are not nearly so killing if they have been opened some time. This may be true to a limited extent; but when codlings are feeding greedily they are certainly not particular, and the great point is to lose no time. Mr. Aflalo recommended opening mussels and laying them out to dry in the sun before using them as baits.

It is obvious that when a fish takes the bait and swims shorewards or towards the angler there will be no pull on the rod. The line will suddenly feel slack, and when this happens we should strike just as much as when a pull is felt. When the fish are biting shyly it is sometimes a good plan to ease the line to them a little at the first signs of a bite. But this should be only a momentary easement, and a second later the strike should come. At night-time the upper hook will often take most fish, and indeed, when the tides suit, the best shore fishing for codling is obtained after sunset.

But it is not everybody who cares to stand on a lonely seashore, with ghostly looking waves hurrying up out of the darkness and breaking at one's feet. At Lowestoft there was a lighthouse with a red light on the right of the place where I usually fished, and on the cliff behind me a revolving light that cast moving shadows which, until I became accustomed to them, constantly gave me the impression that some evil-minded person was stealing up silently behind me. I well

remember, one warm night in autumn, when the sheet lightning kept flashing out from behind a great mass of clouds banked up just above the horizon. The distant sea looked black, but the undulations of the water suddenly whitened as they broke on to the beach and came rushing up to my feet, drawing back again over the sand and pebbles with a noise, half murmur, half roar.

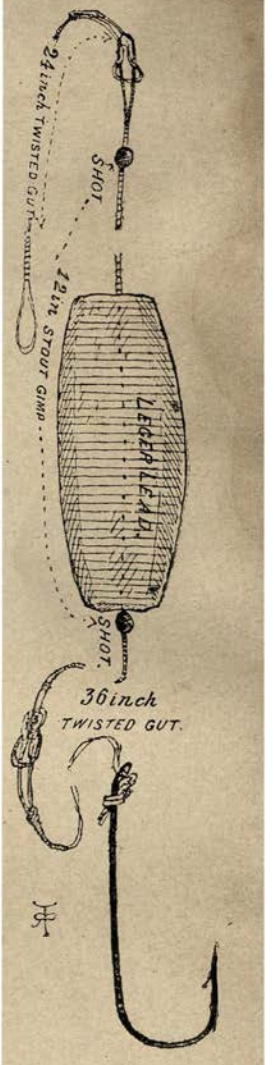
Some distance beyond me little twinkling lights were showing along the shore—the lanterns of the men with the throw-out lines. Great dark masses glided silently by over the sea, and suddenly the revolving light, as it searched the waters, caught one of them and revealed a big ship in full sail. Then a steamer with saloon lights came by, and a lurid glare went up as her fires were coaled. After she had passed, all seemed doubly quiet and dark. The surf grew greater as the tide flowed more strongly, and it was next to impossible to keep the bait on the bottom, though I kept on increasing the weights of my leads. In the words of a passing fisher lad, 'there was a great swipe on,' and the greater the 'swipe'—which in southern English means, I suppose, surf breaking in the same direction as the strong tide which runs along the shore—the less useful the fishing.

Codling are by no means the only fish to be caught from sandy shores and beaches. There are always a few flat fish available; and big bass, for which in such places squid is an excellent bait, often come cruising along, especially if near the mouth of an estuary. For bass some sea fishermen prefer the leger to the paternoster. This piece of tackle is clearly shown in the illustration. The lead works on a piece of gimp, and the chief peculiarity of the tackle is that when the fish seizes the bait, instead of dragging the lead after him, he pulls the line through a hole in the lead, while the angler who is holding the rod is at once notified of the bite. There is in practice very little difference between this tackle and the paternoster illustrated on p. 222, in which the lowest hook link is prolonged to a yard or more; and as it is hardly necessary to use

two kinds of tackle when one will do, I have for some time almost given up the use of the leger.

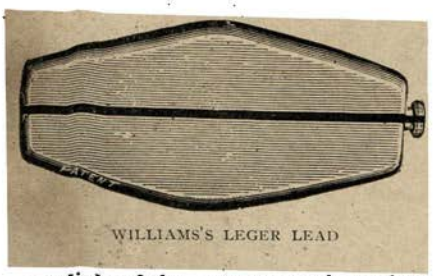
There are times, however, when the fish appear to pick up the bait delicately and swim off with it a short distance before taking it so far into their mouths that, on the angler striking, the hook will lay hold. If any resistance is offered, as by a fixed lead, the fish drops the bait. In such cases the leger is a decided advantage, though the caution of the fish may often be overcome by simply using a smaller hook, with bait in proportion. Many bites are missed owing to the bait being too large for the hook. A very simple leger can be made by placing a leger lead, or indeed any lead of the right weight, with a hole through it on to the casting line, up which it may freely travel, its downward course being restrained by the knot fastening the line to the yard or more of snooding. A clever leger lead, invented by Mr. F. T. Williams, which can be placed on any part of the line without untying any knots, is shown in the illustration. There is an inner slotted tube which is turned after the line has been placed through both slots.

For fish which are shy and can be depended upon to pick up a bait from the bottom, there is a great




LEGER FOR BASS, ETC

advantage in a tackle which lies almost hidden amid sand and pebbles, at least that portion of it near the bait. With the ordinary paternoster, where the hook links are short, the fish has an opportunity of inspecting the gut line rising up straight from it at an angle to the bottom; but where either the leger is used or the lowest link of the paternoster is prolonged, as I have explained, the gut near the bait is practically invisible to the fish and not noticeable as it lies on the sand.



WILLIAMS'S LEGER LEAD

People who do not care to exercise any skill or take much trouble about sea fishing, sometimes use an apparatus which has various names in different localities. Mr. Wilcocks calls it an outhaul bulter—a bulter is the same gear as a trot or spiller. The form of the thing is very clearly shown by the illustration.

A heavy anchor or stone is placed at low-water mark during spring tides, or it may be taken somewhat farther out to sea by means of a boat and dropped overboard. It will be noticed that attached to it is a block. Sometimes a ring is used instead of the block. Through the ring or block an endless line passes, endless inasmuch as the two ends are joined together. A number of snoodings, at least eighteen inches or two feet in length, are placed so far apart that they will not entangle. Of course the size of the snooding and of the hooks must depend on the fish you expect to catch. If big cod or bass are about, then the tackle must be strong; while for flat fish only small hooks and fine snoodings should be used. The main line must be long enough to reach to the shore above high-water mark, and by simply hauling on one side of the line the hooks can be brought in, any fish caught removed, and the hooks rebaited; then by hauling on the other side of the line the baited portion can be taken out to sea again.

Where there is a considerable rise of tide, a very long line is of course required; in fact, this tackle is not suitable for places where the tide rises over several hundred yards of shore. If the bulter is laid in a place where conger may be expected, there should be a swivel on each snooding, and in any case there should be fixed on the line a piece of bone or wood or other substance, of sufficient size to prevent the snood which comes next the block or ring from being drawn through. To ascertain the exact length of line required, pace the distance between a few yards above high-water mark down to the spot on which the stone is to be placed; you will want a little more than double as much line. It is, of course, necessary to drive in a post or to have some heavy stone on the beach to which to fasten the shore portion of the line. Where the sea recedes a great distance, it is a simple matter to lay a long

OUTHAUL BULTER

line on the shore near low-water mark. This will catch fish at night and a few in the day-time, but it is poor sport.

As I expect this chapter will be one of the most useful in the whole book to the coming generation, I would like to say a few words here to the boys. My advice is this: Learn all you can as to the tides—whether the fishing is best at the spring tide or the neaps. If it is best at the springs, then do not miss going a-fishing when the moon is full or new. Ask the fishermen what is about, and do not let them laugh you out of using fine tackle; the laugh will probably end in being on your side. Do not make any mistake as to season. For instance, do not be satisfied with some general reply as to the fish which are caught at any particular place; find out during which months they frequent that part of the coast. If you are at the seaside in winter and are told that the place is good for bass, ask whether there are any bass about *then*. Whatever fish are mentioned, read what I have said about them later on in the book, and see on what pages there are references to them by searching the index. Particularly notice what baits are recommended, and read all about those baits in the chapter devoted to them.

Sea fishing does not only consist of personal skill. Success depends in a great measure on your fishing at the right time and in the right place, with the right baits. These three things are all important; but above all use your own brains, and if you are not catching fish try to puzzle out the reason for your failure. Learn the names of the curious things you see on the shore or in the water. There are numbers of strange creatures among the rocks which only have to be looked for; young fish of all kinds, beautiful prawns and shrimps, anemones—flowers of the sea—crabs of many kinds, jelly-fish (deal with these cautiously, for many of them sting), and when the tide is very low you may even come across a lobster or conger-eel in some hole deep under a rock, and how to catch them you may learn in a subsequent chapter given up almost entirely to these creatures.

It is a good plan to have a little notebook and to put down what you catch every day and the bait and tackle used. Above all things, if you have been out in a boat half a dozen times don't imagine you know how to manage it. Small-boat sailing is in its way as difficult as yachting, and infinitely more dangerous when carried on by the inexperienced. So never resent a word of caution from an ignorant old sailor, though you may be in the sixth form yourself. Whatever you do, do it with all your heart, use your wits, and do not try to catch fish simply by rule-of-thumb methods. There was an old and very successful fisherman who was once asked what he used that enabled him to fill his creel so fully and frequently, and he replied, 'Brains.'

## CHAPTER VII

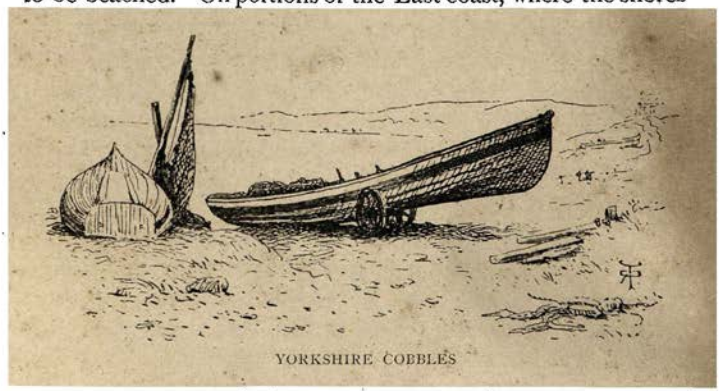
### SEA FISHING FROM SMALL BOATS

In the pages of 'Punch' the inimitable John Leech once drew a happy sketch of a very unhappy cockney sportsman—middle-aged and corpulent, sitting in a very small boat in company with a stout man in a blue jersey—at least, I assume the blueness—and a black glazed straw hat. Extreme woe is depicted on the face of the sportsman, who is leaning over the side, holding a hand line, while the mariner in attendance is cheerful of aspect. 'Don't yer feel anything yet, sir?' he is asking; 'perhaps you had better try another worm.' There is a good sailing breeze abroad and a little bobble of a sea. The sketch is so strong it hardly requires words to elucidate it. It is, without much doubt, these same uncontrollable feelings—and I am not alluding to the pull of the fish on the line—which deter so many from taking their pleasure on the sea. My own pet aversion is a steamboat with a screw propeller; but seafaring persons do say that nothing is more trying to the feelings, let me call them, than a few hours at anchor in a very small boat when there is a lively lop on.

Many an enthusiast, full of hope, has pushed off from the beach, where tiny wavelets were breaking, on to what appeared to be (from the shore) a smiling, rippling blue sea, only to come home an hour or two later yellow of visage, and in a state of collapse. It is unfortunate, and I lament that I can suggest no remedy. Those who suffer, if their inward parts cannot be tutored by practice, would be well advised to stick to harbours and landlocked waters generally. As I have said in an earlier

chapter, if they choose to journey to the north-west coast of Scotland, or certain portions of the Irish coast, or to the fjords of Norway, they will find water as calm as any millpond. Few indeed are the days when on the South or West coasts of England there is not some slight upheaval of the water—and the rest.

With regard to the choice of a boat, the sea angler must necessarily take what he can get; but if there is much variety let him select a craft which is somewhat beamy and seaworthy, rather than narrow and cranky. Wherever there is a harbour the boats will, as a rule, be more stable than those which have to be beached. On portions of the East coast, where the shores



YORKSHIRE COBBLES

are very flat and sandy, a peculiar kind of boat, called a cobble, is used. This is a composite arrangement of fine lines in the bows and fairly deep in the water. But towards the square stern, where the single deep keel is replaced by three smaller ones, the bottom flattens out. Though these boats are not over-safe when running in a big sea, they do most excellently meet the peculiar requirements of a flat sandy shore. They are always backed in, and the surf breaks harmlessly against the sharp bows, while the flat stern slips over the sand through the shallow water until it is brought within reach of the hauling rope.

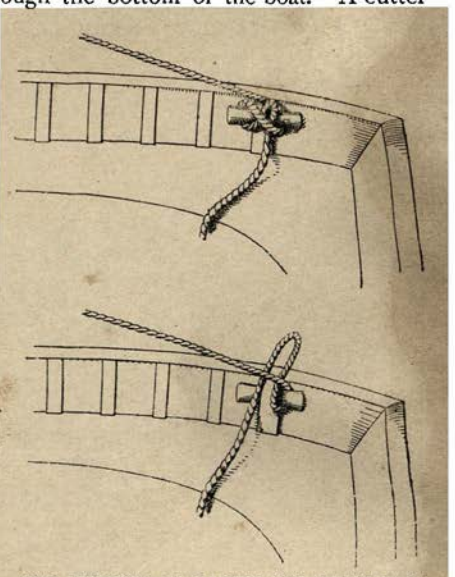
On Deal beach, which has a tremendous slant, very sea-

worthy little vessels may be seen. Though these have but small keels, they are of fairly deep draught, for the water is deep close along shore. It is quite a sensation to get into a Deal lugger or galley-punt some forty yards from the water, and be sent spinning down the sloping beach, striking the sea with a bang, and taking in half a dozen bucketfuls of water. But it is still more exciting coming on shore in a gale of wind, for the Deal boats are usually hauled up stern foremost, and lie broadside on to the waves for a few minutes before the winch can be set to work and they can be brought out of reach of the waves.

Points which the hirer of the boat should look to are good oars; a good anchor, or, if the bottom is rocky, a killick stone; a sufficiency of cable—at least half as many more fathoms as the greatest depth at which the boat may have to be anchored; and thole-pins which are not more than half worn out. Long-shoremen are apt to be very careless about these matters, often letting a thole-pin, for instance, break before they will take the trouble to renew it. Of course, I need hardly say that if the boat is a small sailing vessel, the better the condition of the rigging and cordage generally, the safer she will be in case it comes on to blow. Above all things, in small craft generally, and particularly in boats without ballast, never allow the boatman to make the sheet fast. Many a man has been drowned who has neglected the simple precaution of holding the sheet in his hand. Along high rocky coasts, which is just the place where much of the best fishing is obtained, squalls come down and lay the boat over in an instant. On the open sea a puff can generally be seen coming, by the darkening of the water to windward. Even when the sheet is made fast, as may be done with a certain amount of safety in summer weather away from the high lands, the rope should be secured in such a way that a mere pull will release it, as, for instance, according to one of the methods shown in the accompanying diagram.

It is not easy to say which kind of rig is best for a small fishing boat. On the whole, I am inclined to favour a balance

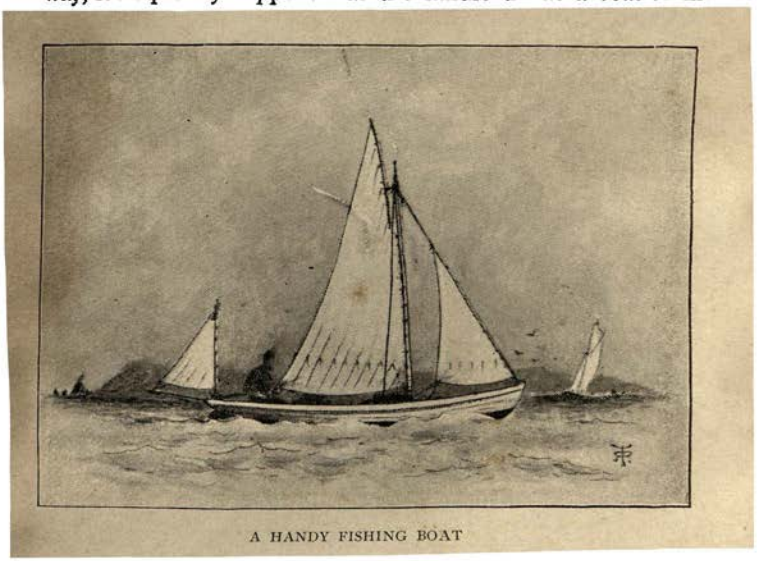
lug with a small foresail and a small mizzen. A mizzen is certainly in the way when whiffing, but in the event of bad weather coming on, or when it is desirable to sail slowly for fishing purposes, it is very convenient to lower the lug, and sail under the mizzen and the small foresail only. Spritsails I do not much like, as the sprit has a nasty way of slipping out of position and suddenly plunging through the bottom of the boat. A cutter rig is certainly not suitable for very small boats, for the boom is in the way. The Tenby boats, fitted with a shifting lug, sail closer to the wind than any vessels I ever handled, except a Norfolk wherry; but the lowering of the big lug when putting about is a great nuisance, and if badly steered they may be taken aback and capsized. On the whole, perhaps the most handy form of mainsail, and one that can be used with or without jib and mizzen, is the comparatively modern sliding gunter. A sketch of it is given on the next page. It sets almost like a cutter's mainsail, without requiring peak halyards, nor is a boom necessary in a small boat.



TWO METHODS OF MAKING THE SHEET FAST

Boatmen's charges is a subject on which there is not a great deal to be said. At short-season watering-places, where the men have to make their harvest in a few weeks, a habit has arisen of charging what appear to be exorbitant rates. The sea angler, whose season is frequently not coincident with that of the

ordinary visitors, may reasonably expect to be accommodated on more moderate terms. At half-a-crown an hour for boat and man, which is no uncommon charge, sea fishing may be much more expensive than angling in fresh water. This rate, which is about a pound a day or a little more, would cover all one's expenses at many an angling hotel in the Highlands, including rights of salmon and sea-trout fishing. In Scotland, by the way, it frequently happens that the landlord has a boat of his



A HANDY FISHING BOAT

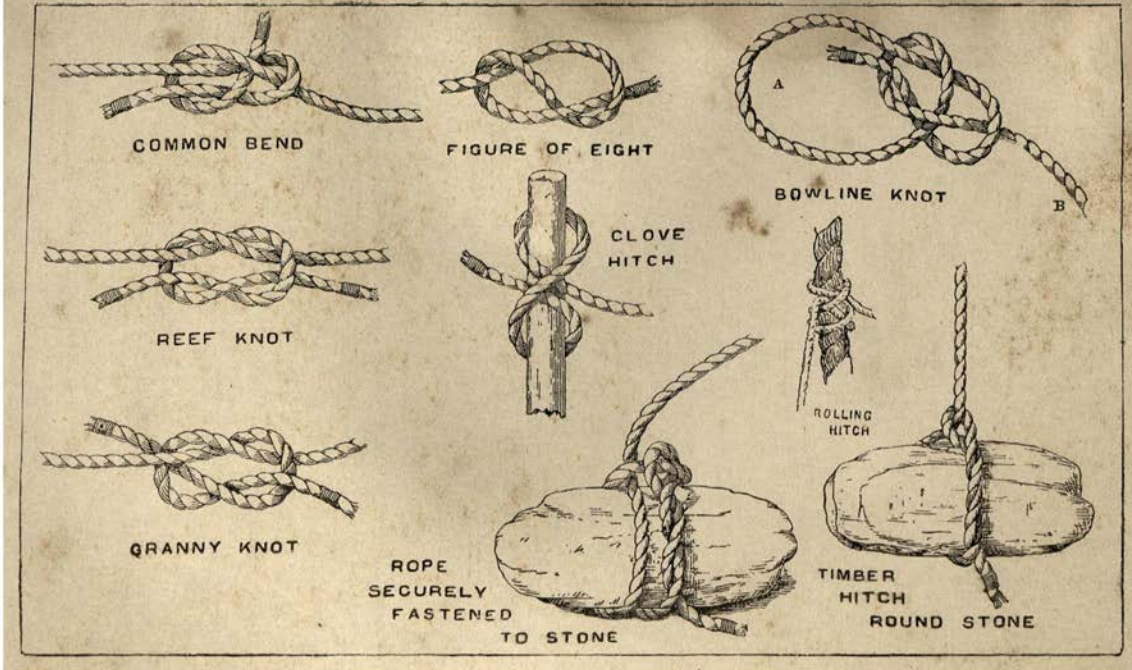
own on the sea loch for which he makes no charge, while the gillies who row one are well satisfied with 3*s.* 6*d.* a day and a reasonable (in the Scotch sense) allowance of whisky. By degrees, the boatmen at many places on our coast are beginning to learn that to treat their sea-fishing customers with greater liberality is good policy on their part. Wherever there is an agent or corresponding member of the British Sea Anglers' Society he is generally in a position to recommend men whose terms will not be found unreasonable. Of course,

if a large heavy boat is hired which requires two men to work her, 4*l.* or 5*l.* a week is not out of the way.

A curious and unsatisfactory custom exists on some parts of the Welsh coast. When the day is over, and the angler has paid his ten shillings or a sovereign, and maybe broken his back hauling in the heavy mackerel leads over the stern, one of the boatmen places the fish in a box and walks off with them, saying, as he does so, that he will be pleased to 'give' the gentleman half a dozen fish to take home for dinner. There is no class more liberal, as a whole, than the amateur fisherman, and few of us would grudge the fish; but when the boatman claims the take as a matter of right it is an entirely different matter, and one's British back is put up at once.

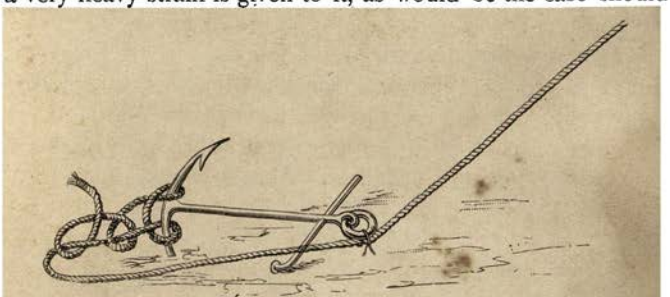
A slight knowledge of the knots used by sailors is well worth having. Not one person in a hundred knows how to join two ropes together properly. This is done by what sailors call a bend, a very simple knot indeed, and easily understood by means of the illustration over-leaf. Next comes the reef knot, which is always used when tying a reef in a sail, and is easily undone. In attempting this a landsman nearly always ties what sailors would call a 'granny's knot.' The two can be compared in the diagram. A bowline knot is also very useful. A running bowline is simply made by placing the end of the rope B through the loop A. The clove hitch is a safe and very useful knot for fastening a rope to a round piece of timber: the harder the rope is pulled, the tighter it jams. The timber hitch is used for similar purposes. The rolling hitch is, in a sense, an improvement on the clove hitch, and is used for like purposes, more particularly for making fast tail-blocks to the standing rigging. In the illustration is also shown the method of fastening a rope to a mooring stone. Any knot which is intended to be more or less permanent will be made all the more secure by the ends being whipped down to the main length of rope.

When using an anchor over ground which is partially rocky, it is a good plan to 'scow' or 'trip' it. It will be seen from the




SAILORS' KNOTS (VARIOUS)

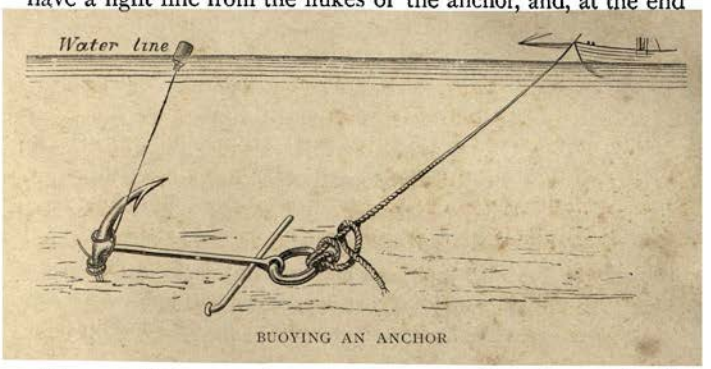
illustration that the rope is made fast to the wrong end of the anchor, but is held to the ring by means of a piece of yarn strong enough to hold the boat and yet so weak that it will break if a very heavy strain is given to it, as would be the case should



ATTACHMENT OF ROPE TO ANCHOR ON ROCKY GROUND

the anchor catch in a rock. On the twine breaking, the strain comes at the other end of the anchor, which is then easily lifted.

Another plan, which is only suitable in slack water, is to have a light line from the flukes of the anchor, and, at the end

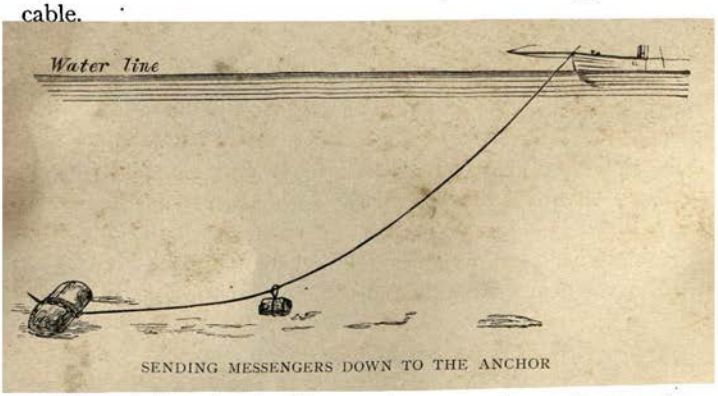



BUOYING AN ANCHOR

of it, a small buoy, such as a tin can or a large lump of cork. Then, if the anchor sticks, by hauling on this line it is easily lifted. A strong tidal current, of course, sinks the little tin buoy.

When a stone or anchor is insufficiently heavy to hold the bottom, and the boat is slowly drifting away from her marks—a most annoying incident when fish are biting well—a piece of iron or stone ballast can be easily sent down the cable with advantage. How this is done is very clearly illustrated.

It is a capital plan to have a few fathoms of galvanised iron chain next the anchor. It inclines the pull on the anchor to the perpendicular, and increases its holding powers. Often, by merely paying out a few fathoms of cable, the dragging of anchor or stone will be checked. Always be well supplied with cable.




SENDING MESSENGERS DOWN TO THE ANCHOR

When fishing in the fairway where vessels are frequently passing and it is necessary for a small boat to get out of the road in a hurry, it occasionally happens that there is not sufficient time to haul up the anchor or stone. To prevent both anchor and cable being lost, it is a capital plan in such situations to have something buoyant, such as a large tin can, fixed to the end of the cable so that it may be cast overboard, and recovered after the danger has passed. Of course this cannot be done if chain cable is used.

I propose in this chapter to deal with the three methods of fishing which are principally carried on from small boats. In the first place, fishing on the bottom with more or less heavy leads; secondly, fishing at or about midwater with drift lines

(lightly leaded lines which are carried out by the tidal current); and thirdly, whiffing or trailing a bait on lightly leaded lines behind a boat which is rowed or sailed along. Finally, there will be a few remarks on hand lining.

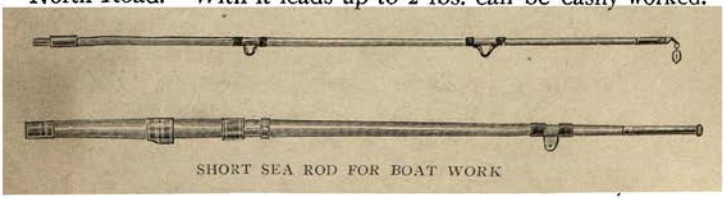
When I first wrote my little treatise, 'Angling in Salt Water,' I did not think sea anglers would ever venture to use 2-lb. leads when fishing with a rod, nor until recently have I done so myself; but from some of the many letters received from readers of that handbook, I have learnt that the rod can be used successfully with leads even exceeding the weight mentioned, and that hand lines are in consequence much less used than formerly.

In the introductory chapter (p. 24) I explained where the advantages of a rod came in, and I will only repeat now that it enables one to use a fine strong line which on account of its fineness could not with any degree of comfort be held in the hand. By using this fine line the weight of the lead can be much reduced; but a fine line necessitates a reel, and a reel a rod; and the rod, by reason of its pliancy, gives us the opportunity of using fine gut tackle which we could never venture to place at the end of a hand line. Sometimes it is desirable to keep the bait quietly on the bottom, and this cannot be done in bobbly weather except with the rod, the point of which is easily raised or depressed according to the movements of the boat. The longer the rod, the more easily can the movement of the boat be humoured and the lead kept steady. This steadying of the lead is one reason why many more fish are often caught on lines worked with the rod than on hand lines. Unfortunately, where a very heavy lead is absolutely necessary a long rod cannot be used with any degree of comfort.

Under certain conditions sea fish will unquestionably take a suitable bait on any tackle, however coarse, as, for instance, in the gloom of very deep water and at night, or when the sea is thick after storms. But in the long run the amateur fisherman beats the professional out of the field. Mr. C. N. Hemy writes to me that when fishing on the Cornish coast

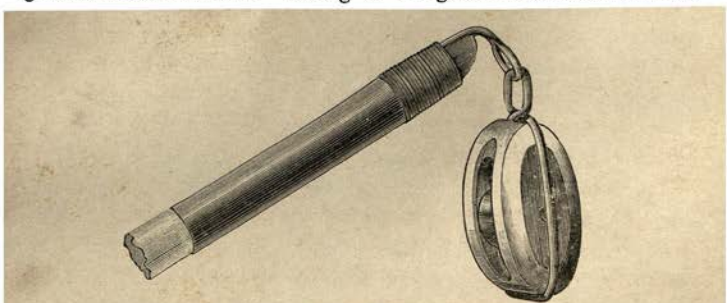
with modern appliances he has caught six times as many fish as the local men.

The best rod for boat work I have yet seen is one which has been gradually worked out by members of the Gresham *Angling Society* with the assistance of Mr. Hemens, of the New North Road. With it leads up to 2 lbs. can be easily worked.



SHORT SEA ROD FOR BOAT WORK

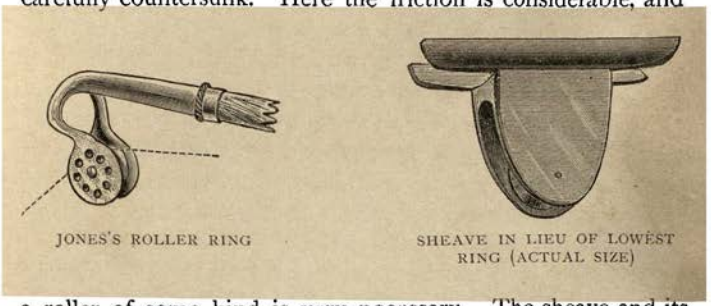
I have even used a 3½-lb. lead with its assistance without much difficulty. It is made in two pieces, and is by no means so stiff as tackle-makers generally think it necessary to make sea rods. It measures only about seven feet, and I may say here that eleven feet is the outside length of a rod for boat work when ground tackle is used. Owing to the great strain which it has



BLOCK FOR END OF BOAT ROD (ACTUAL SIZE)

to bear, it is fitted at the end and next the reel with a roller apparatus over which the line passes. There are two good arrangements for the end of the rod: one is simply a little block fixed on with wire; the other a brass arrangement invented and made by Mr. Jones, of Scarborough, and sufficiently explained by the illustrations. The Jones apparatus is rather

heavy and more expensive than the block, but answers admirably, and its advantages are particularly apparent when the angler has to use his rod from pier or shore and wishes to cast out some distance. In place of the ring next the reel, there is a metal sheave and two little metal supports into which it is carefully countersunk. Here the friction is considerable, and



JONES'S ROLLER RING

SHEAVE IN LIEU OF LOWEST RING (ACTUAL SIZE)

a roller of some kind is very necessary. The sheave and its supports are shown in the illustration.

There are many kinds of rod rings made for use between the two end rings; but, patents notwithstanding, none, so far as I have discovered, is in actual use better for this particular rod than the snake ring, which is a double misnomer, for it is not a ring nor does it take the shape of a snake. There is simply a curved piece of wire beginning slightly on one

SNAKE RING

side of the centre of the rod and ending on the other; but the illustration already given—repeated here for the reader's convenience—will explain it better than any written description. It is now a well-known item of fishing tackle, and is cheap, simple, and effective. It should stand out half an inch from the rod.

For sea-fishing tackle (the hooks excepted) beware of iron

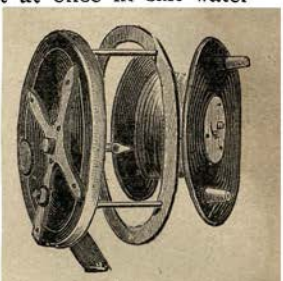
or steel in any shape or form, whether bronzed, plated, or otherwise treated to prevent rust. For rod rings and any metal fittings for which it is suitable I am very fond of phosphor bronze, but hard German silver, or brass, answers almost equally well, and doubtless some day aluminium will come into general use for such purposes. The rod from which the illustration was made was of greenheart from end to end, and I doubt if there is a better wood for the purpose. As I said before, it is not very stiff, nor when we have an exceedingly short rod of this kind is stiffness necessary, even with very heavy leads.

When I first began writing about sea fishing I always recommended a Nottingham reel, and lived in hopes that some day or other a special reel for saltwater angling made on that system would soon be brought into existence by enterprising tackle-makers. But now, some ten years or more later, I find myself still only able to say that the best reel is a Nottingham reel. It should be made as strongly as possible, far stronger than is used for pike fishing; both the spindle and the neck of the reel should be extra stout. It should be fitted with the wire guard illustrated on p. 170. These guards are coming into very general use indeed, and a well-known tackle-maker has paid me the indirect compliment of including mine in a patent reel which he brought out recently.

These wooden reels have one great fault—after winding up twenty fathoms or so of wet line the salt water works its way all over the reel; the wood swells, and sooner or later sticks. I have been in the habit of preventing this by removing the barrel of the reel from the back, and smothering the woodwork with vaseline. The Rev. F. W. Tracy, who in former years had a considerable experience of sea fishing on the coasts of Devon, Cornwall, Wales, the Isle of Man, and elsewhere, and has kindly sent me many very valuable suggestions and criticisms, tells me he makes it a rule to dress the inside of his reel with one of those enamelled paints which were recently so popular among ladies for decorating deal furniture. It may be asked, 'Why not use the old-fashioned brass or gunmetal winch?'

The answer is—To reel up a great length of line on one of those winches would take too much time. What is required is a large barrel to the reel, every turn of which is equivalent to three or four turns of the winch, thus giving the advantages of a multiplier with none of its complications and liability to get out of order.

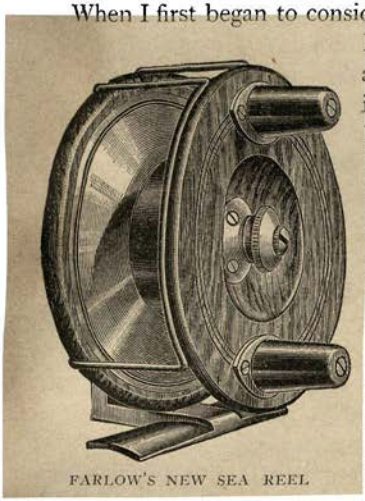
A strong Nottingham reel six or seven inches in diameter is not by any means too large for the sea angler, and it is important that it should be fitted with what is termed an 'optional check'—that is to say, an arrangement by which it can be made a free-running reel or a reel with a check at the option of the user. A portion of the usual check mechanism consists of a double *steel* spring attached to the inside of the reel back by means of two *steel* screws. These rust at once in salt water usage. I have abused and preached against the use of steel in sea-fishing tackle until I am tired; perhaps two centuries hence the tackle-makers will appreciate the fact that some metal which does not rust is better suited for the purpose. Perhaps then we shall have reels made on the Nottingham system, but with very little wood and no steel in them. Of course there are even now Nottingham reels made principally of brass, vulcanite, &c., but I have come across few strong enough for sea fishing. Some of the best of these are made by Slater, of Newark, who has a patent line guard of his own—a very good one.



SLATER'S REEL AND LINE GUARD

What we most particularly require in sea fishing is something very strong, very durable, and very simple, and at the same time not too heavy. Farlows, I am glad to say, have recently worked out a capital wooden reel for sea fishing. The checking gear consists mainly of a brass nut which screws down the axle and presses against the barrel of the reel, thus doing away with the objectionable steel spring. It is illustrated overleaf and is thoroughly strong and trustworthy.

For fishing from a boat an absolutely free-running reel is necessary to lower the lead quickly through the water; hence the advantage of the optional check, but a Nottingham reel without a check—I often use one myself—can with a little practice be manipulated and prevented overrunning by the pressure of a finger on the rim of the reel. Perhaps some day an ingenious person will contrive a spoon brake, such as is used on bicycles, to work on the edge of the reel and so prevent the friction with the finger.



FARLOW'S NEW SEA REEL.

When I first began to consider the subject of lines, I confess I felt perplexed, their number and variety being simply alarming. But, thinking the thing out, I came to the conclusion to recommend for the methods described in this chapter only one, which I firmly believe to be far and away the best. It is simply an undressed twisted line made of pure silk. Twist is infinitely stronger than plait, size for size, and silk is stronger and more durable than any other known material; so what can possibly be better?

Owing to the considerable friction between the line and the rod fittings when heavy weights are used or a big fish is being played, any dressing quickly wears off, so I never use one, and do not recommend its use; but there is no objection whatever to barking the line in the same way as sails are barked. The process, which is very simple and inexpensive, and quickly performed, should increase durability. Of course the undressed line takes up a good deal of wet, and when I have time I usually vaseline the whole line, which helps to keep the salt water out of it, though I am not quite sure that a line treated in this way lasts so long as one

which is simply washed in fresh water after use and carefully dried. But the lines I have in my mind are so cheap that it is folly to keep one until it gets rotten.

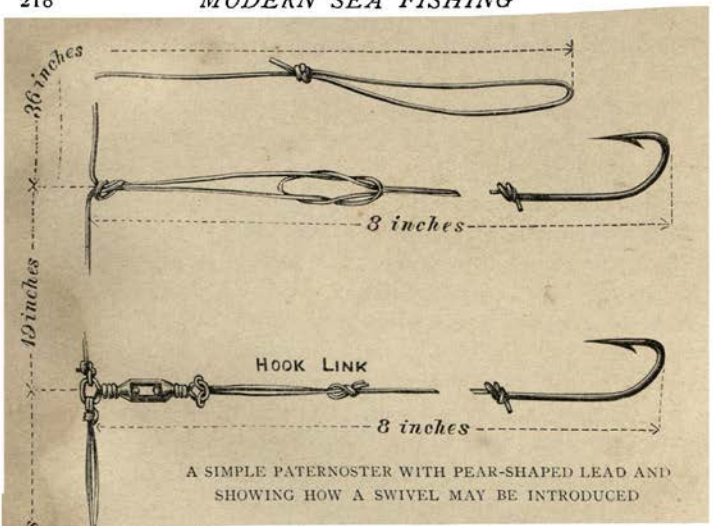
The following is a recipe recommended by Mr. Hearder, of Plymouth, for barking (the term is now obviously a misnomer) silk lines and nets: ½ lb. catechu; ½ oz. sulphate of copper; one gallon of water. Boil together till the solids are dissolved, *remove the saucepan from the fire*, put the line in the mixture and leave it for twenty-four hours. At the end of that time lift the line out of the liquid, wash it in fresh water, and dry in air.

The reel should be well but not over filled, and should hold not fewer than seventy-five fathoms, or, in landsmen's language, one hundred and fifty yards. Under special circumstances even more line than this is required, especially in a strong tide-way where the line is carried out some distance from the boat.

The actual bulk of the line must depend in a measure on the size of the fish, the weight of the leads, the depth of the water, and so on; but what is most generally serviceable is one just a little larger than the Trent anglers use for pike when they cast off the reel. I have often had my line derided by ancient mariners who saw it for the first time; but when they came to try its strength, and made their hands bleed in vain attempts to break it, they admitted that it was far superior to anything with which they were acquainted.

Without much question the best tackle for catching fish on or near the bottom is the paternoster and its various modifications. With the old-fashioned hand line and Kentish or other rig, one dangled about in the water, over and in full sight of the fish, a lump of lead and a cross-bar of metal wire, at the ends of which were attached two pieces of hemp snooding and some rough tinned hooks. With the paternoster the lead lies on the bottom, and the fish see nothing but the gut tackle above it.

In the illustration I have shown the most simple and most generally useful form of paternoster. To it is attached the ordinary pear-shaped lead which may be bought in most tackle

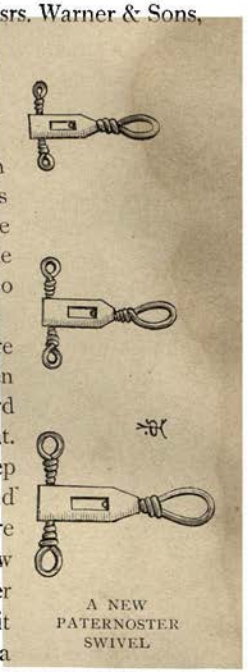



A SIMPLE PATERNOSTER WITH PEAR-SHAPED LEAD AND SHOWING HOW A SWIVEL MAY BE INTRODUCED

shops. How the simple loops are made to which the hook lengths are attached is shown in the illustration. It is a thing anybody can tie up in five minutes out of a couple of yards of gut. Swivels are not always necessary.

If there is not much current, and nothing larger than whiting and flat fish are expected, we can fish with light leads and a paternoster made up of lake-trout gut. If there are large codling about or other fish of considerable size, then the paternoster should be of salmon gut, or twisted gut, which is a good deal used. If of twisted gut, the loops to which the hooks are attached must be whipped on to the main length instead of being simply formed out of it by means of a knot, but it is infinitely better to introduce small swivels in the manner illustrated. Any brass or German silver swivel, if about the right size, can be used, but it is very desirable before making up the tackle to

flatten or render oval the wire loop to which the upright portions of the tackle are made fast. I have shown how ordinary swivels may be used, but while at work on this book I devised a special swivel which not only allows for the twist of the hook link, but also revolves round the upright part of the tackle, which movement is less important. In the illustration are three sizes of these swivels, and they should answer all ordinary purposes. They were made by Messrs. Warner & Sons, of Redditch. Perhaps experience will prove that some modification of their shape will be an advantage. But as they stand they are thoroughly practical pieces of tackle.



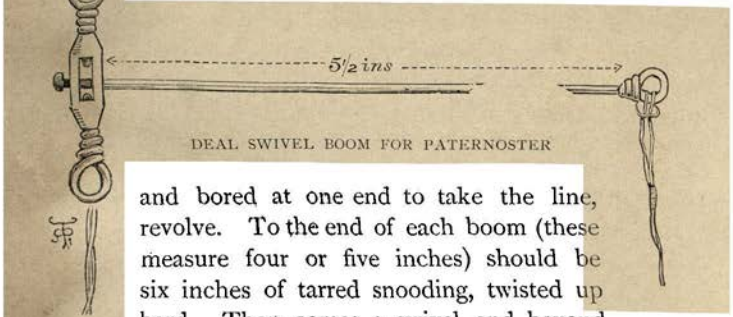
A NEW PATERNOSTER SWIVEL

A swivel boom of brass wire, much favoured by anglers who frequent Deal, is illustrated overleaf. It does not give the double motion, the wire bends under the weight of a big fish, and the boom itself, so far as my experience goes, is unnecessary.

Another word as to swivels. These are most needed on the hook link, for very often the bait, particularly if a piece of pilchard or other fish, will slowly twist in the current. A small fish when hauled up out of the deep water frequently spins round and round, and would kink up the hook link unless there were a swivel to prevent it. In shallow water where the current is slight neither swivels nor booms are required, unless it be, indeed, a swivel (to remove kinks from a twisted line) between the running line and the top of the paternoster; but in deepish water, and wherever there is much stream or current, I would always advise the use of the swivel to prevent the hook links being twisted. It should hardly be necessary for me to say that steel swivels should never be used in salt water, brass being infinitely preferable, though not so strong as phosphor bronze. Bright brass swivels should be dulled

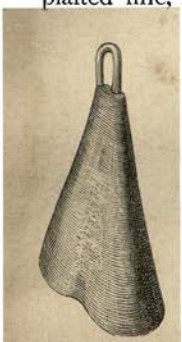
by being placed for a few minutes in a solution of hyposulphite of soda, or by means of sulphur fumes.

A still stronger form of paternoster can easily be made for use in very deep water where the fish are large and heavy leads are required. The upright portion may be made of strong hemp line served with wire at intervals where flat booms, made of horn




DEAL SWIVEL BOOM FOR PATERNOSTER

and bored at one end to take the line, revolve. To the end of each boom (these measure four or five inches) should be six inches of tarred snooding, twisted up hard. Then comes a swivel, and beyond that from one to two feet of either gimp, twisted gut, or fine plaited line, according to the fish which are sought after. If conger or dogfish are abundant, the remarks on hooks and snooding for these fish given on p. 67 should be noted. This is useful tackle on a hand line in deep water, in which case one should have three little booms placed at intervals of six feet. For rod work, on the other hand, the topmost boom must not be further from the lead than the length of the rod.



FLATTENED CONE LEAD

The flattened cone lead, shown in the illustration, is rather a favourite of mine. I first saw it at Deal. It offers very little resistance to the water after being lowered, but does not sink so rapidly as the one next to be described.

A simple and excellent weight can be made out of a piece of composition gas piping. The requisite length is cut off and

filled with melted lead, a piece of brass wire as shown in the illustration being held in position. These leads, it will be noticed, are very much in the shape of a conical bullet, and sink rapidly to the bottom, which is a consideration when a strong tide is running. I have called them the 'Tracy' lead, after their inventor. By using the swivel illustrated at the end of the paternoster these, and indeed other leads, can be changed with great ease. The following little table shows some useful sizes, with their approximate weights. The wire loop should err on the side of stoutness.

| Diameter of Piping | Length | Weight |
|---|---|---|
| | *Light* | |
| $\frac{3}{8}$ in. | 2 in. | 2 oz. |
| $\frac{3}{8}$ in. | $3\frac{1}{2}$ in. | 3 oz. |
| $\frac{3}{8}$ in. | $4\frac{1}{2}$ in. | 4 oz. |
| | *Medium* | |
| $\frac{5}{8}$ in. | $4\frac{1}{2}$ in. | 8 oz. |
| $\frac{7}{4}$ in. | $5\frac{3}{4}$ in. | 1 lb. |
| | *Heavy* | |
| 1 in. | 6 in. | 2 lbs. |
| 1 in. | $7\frac{1}{4}$ in. | $2\frac{1}{2}$ lbs. |

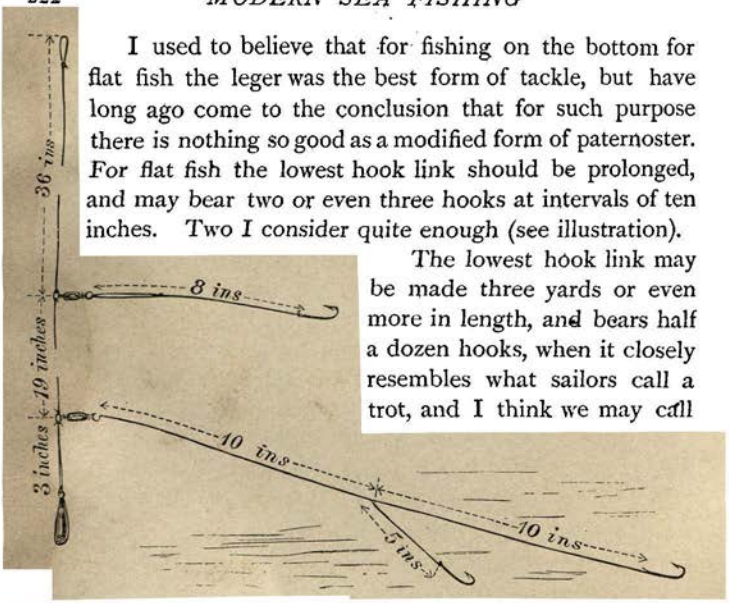
For fine fishing, where a light weight can be used, I rather prefer a more dumpy lead which lies closer to the bottom and is barely visible to the fish.

To fill a piece of composition piping with lead seems a simple matter. I tried and found that the hot lead melted the pipe. I overcame this difficulty by standing the pipe in moist sand firmly pressed around it. The end of the pipe containing the wire should be stopped with putty and put downwards.

THE 'TRACY' LEAD, WITH SWIVEL ATTACHMENT TO PATERNOSTER

I used to believe that for fishing on the bottom for flat fish the leger was the best form of tackle, but have long ago come to the conclusion that for such purpose there is nothing so good as a modified form of paternoster. For flat fish the lowest hook link should be prolonged, and may bear two or even three hooks at intervals of ten inches. Two I consider quite enough (see illustration).

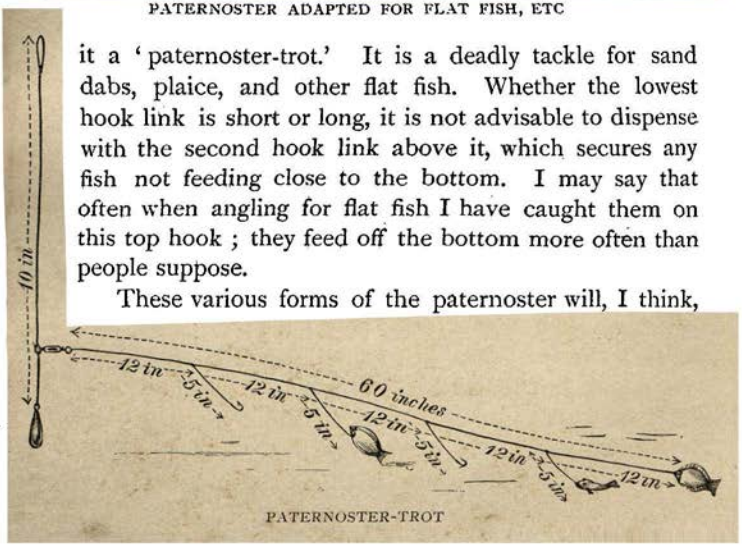
The lowest hook link may be made three yards or even more in length, and bears half a dozen hooks, when it closely resembles what sailors call a trot, and I think we may call




PATERNOSTER ADAPTED FOR FLAT FISH, ETC

it a 'paternoster-trot.' It is a deadly tackle for sand dabs, plaice, and other flat fish. Whether the lowest hook link is short or long, it is not advisable to dispense with the second hook link above it, which secures any fish not feeding close to the bottom. I may say that often when angling for flat fish I have caught them on this top hook ; they feed off the bottom more often than people suppose.

These various forms of the paternoster will, I think,



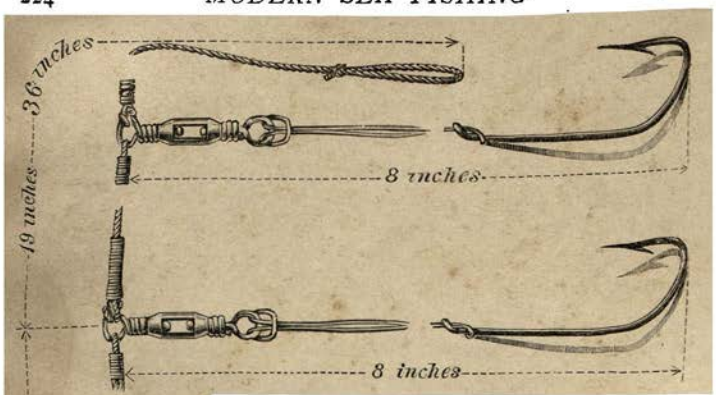

PATERNOSTER-TROT

suffice to catch fish on or near the bottom in any water round our coasts. There is one point I have omitted, and that is, supposing the bottom is rocky and the weeds are growing some distance above it, then the hook links and hooks must be well up above the lead, and the angler should be careful, having once ascertained the depth, never to have his lead nearer the bottom than about three feet. It may be asked, how can we do this? A simple little dodge gets over the difficulty. Having once ascertained the right depth, reel up a yard or so, tie a piece of cotton round the line, and be careful never to unwind beyond the mark. Of course, if the tide is rising or falling due allowance must be made; and if the fish appear to have suddenly ceased feeding, the depth should be again taken.

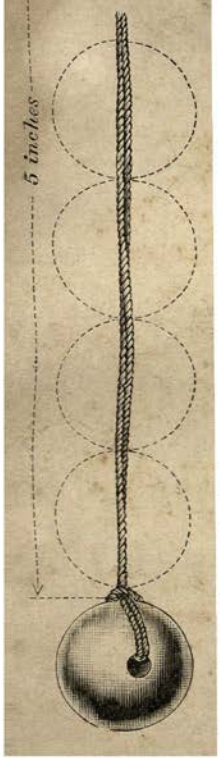
A useful arrangement for ascertaining the nature of the bottom is a sounding lead made much in the shape of the long cylinder illustrated. Its lower end is filled with tallow. Lower until it reaches the bottom, and on drawing it up you will find whether you are fishing over stones, mud, or sand; it is a very useful guide to the fish which may be expected. Of course this is no new idea to men who know anything about navigation, for it is a common thing to take soundings to discover the nature of the bottom.

The sea angler should not stint himself in the matter of leads. He will want them of various weights, from one ounce up to two pounds. He should always fish with the lightest possible weight at the end of his line, changing it for a heavier lead as the tidal current increases. If, on the other hand, he is fishing with a heavy lead and the tide slackens, then he should change it for a lighter lead, for the less the weight on the end of his line, the easier will he feel the bites of the fish and the quicker will he be able to strike and hook them.

Sea leads are so heavy that it is obviously an advantage to have some arrangement to which, instead of changing the entire lead, additions may be made. One very simple method of doing this is to use from one to four or five large bullets with a considerable hole drilled through them through which the line




METHOD OF ADDING TO OR DECREASING WEIGHT AT END OF PATERNOSTER

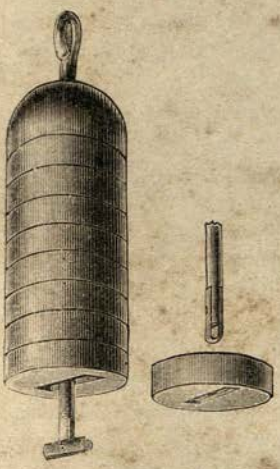



can easily be passed. The bullet at the end is fixed by simply passing the loop through the bullet and then the bullet through the projecting loop. The other bullets are put on or off the loop by removing the end one. This explanation will, I trust, be understood by reference to the illustration.

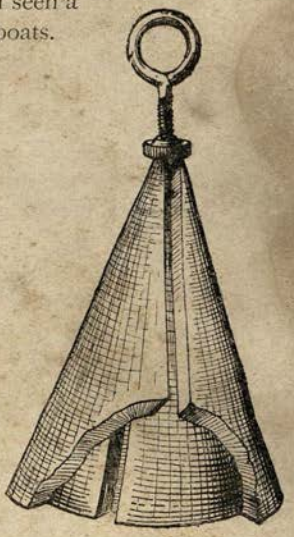
Two clever leads have been contrived to get over the variation of weight difficulty. Their construction is sufficiently evident from the illustration. One consists of a series of cone-shaped lead cases each of which can be removed by screwing up the nut and passing the central wire through the slot. The cone-shaped lead is made by Messrs. S. Allcock & Co. The other is sold by Mr. Hemens, the maker of the sea rod already described. The various sections are removed from the bottom by turning the end of the wire straight.

If there is any chance of fish over two pounds, the landing net or gaff is almost a

necessary item of tackle. Not only do fish often kick off when being lifted on a hook through the air, but if at all large their weight, coupled with the weight of the lead, may be sufficient to break the gut tackle which doubtless many readers of this book are in the habit of using. Even with coarse deep-sea gear which will sustain sixty pounds or more, a gaff or net should be used with large fish, as the hook is so likely to tear out. I have often seen a landing-net carried on the Scotch boats.



HEMENS' LEAD.



ALLCOCK'S LEAD.

I was once fishing with a No. 7 hook and a fine gut paternoster for sand-dabs when I hooked a conger of over seven pounds. We had a landing-net, but into this it resolutely refused to be inveigled, and my Welsh boatman, though well used to these 'serpents,' as the Scotch call them, was disinclined to handle the creature. I played the fish until it was dead beat and not the flap of a tail left in him, and a pretty piece of sport he gave me. Some twenty minutes elapsed from the time he was hooked before he became limp enough to allow

himself to be carried by the current, tail foremost, into the landing net.

If not provided with a regular gaff, a very good substitute can be made out of a hake hook, the barb of which has been filed off or hammered down. It is easily whipped on to the first available stick.

Assuming that the amateur fisherman is all prepared for the fray—provided with rod, reel, line, paternoster, hooks, various leads, baits, and has his boat moored on the fishing ground according to the marks—now comes the time when his own skill and judgment must be brought into play. Probably he will have some general idea of the fish in this particular spot. If the bottom be sandy or marly he will, of course, expect flat fish, and perhaps gurnards, whiting, and cod ; if over rocks, pollack, coalfish, bream, conger, wrasse, and other rock fish.

Some men make it a rule to use tackle strong enough to catch the largest possible fish which may be about. For instance, if they are on good flat-fish ground, and rocks are not far distant, knowing that towards evening the congers may come out from the rocks and travel over the sand in search of food, they perhaps fish with stout gear and big hooks which may be relied on to hold a conger. The result is that they catch very few flat fish—perhaps none at all. I rather prefer to use the tackle for the fish which are most abundant, and trust to luck and skill for landing any larger fish which good fortune may throw in the way.

In some cases it is possible to compromise a difficulty of this kind by having one big hook on the paternoster mounted on gimp or soft hemp for big sharp-teethed fish, and a smaller hook on fine tackle suitably baited for small fish. But so far as my experience goes it is no uncommon thing, if this method is practised, to find the large fish taking the small hook on gut, unless it be a cod, which will usually give the preference to a large bait. Conger in particular appreciate fine tackle.

It is of the very first importance to have the best possible baits, and among those which are suitable for fishing on or

near the bottom are lugworms, mussels, ragworms, live or dead shrimps (the latter peeled but not boiled), or pieces of fish such as pilchards, herring, mackerel, and smelt. With either lugworms, mussels, ragworms, and pilchards, herrings, or sprats, the fisherman is likely to have some sport if any fish are about. In this connection the Bait chapter should be studied.

If the fish expected are mostly small, such as whiting or whiting pout, the tackle, of course, may be very fine; for cod something stronger is necessary, and the hooks should be proportionately larger; but always have the vertical portion of the paternoster stouter than the hook links. The exact form of paternoster must depend on whether we anticipate finding our fish right on the bottom or a little above it. In very deep water we should fish at a greater distance from the bottom than where it is shallow.

The right weight of lead can only be determined by experiment or local knowledge. The best plan is to put up a rather light sinker, and if that holds the bottom, well and good; if it does not, add to it or change it for a heavier one. Whether the weight does or does not hold the bottom, can easily be felt. After baiting the hooks, the paternoster is swung over the side, the check to the reel is taken off by pushing back the button, and down runs the tackle to the bottom by mere force of its own weight, the reel spinning round. A finger should be kept on the rim of the reel to prevent it overrunning and to check it altogether immediately the lead is felt to hit the bottom. After a few seconds lift up the point of the rod and lower it again and see if the lead is keeping its position or is being carried away by the current. Where there is much stream it will probably be necessary to pay out a few more yards of line, for the current will gradually carry the tackle out at an angle with the boat. It is possible, of course, to fish with such an extremely heavy lead that the line hangs almost perpendicularly, but it is far better to use a lighter lead. By letting out a few extra fathoms of line the bottom will be held very well, particularly if the line be fine.

Having ascertained the proper lead and let out a sufficiency of line, the check can again be put on the winch, and the rod should be held over the water with a gentle strain on the line. Unless the first fish is very small there will be no mistaking its bite. Immediately the little tug tug comes at the top of the rod, the angler should strike and proceed to reel up, and not on any account draw in the line with his hands.

Except where the tidal current is very strong, the ground-bait net which I have described on page 120 should be used. If there is no current at all, it is a capital plan to throw in fragments of crushed crab, mussel shells, raw potatoes and the like over the spot, so as to fall just where the paternoster is resting on the bottom.

So much, then, for fishing on the bottom from boats. The second method of fishing from what I may term a stationary boat (though I am afraid people with 'feelings' may deem the term somewhat inaccurate) is by means of drift lines. For this purpose the professional fisherman, if he can afford it, uses a long line of twisted horsehair with half-ounce pipe leads placed on it at every two fathoms. Mr. Wilcocks, in the 'Sea Fisherman,' recommends these lines to be made in the following way: By means of a twisting machine short lengths of lines are made, each length containing three strands, and each strand containing from twelve to fourteen hairs. One length should be twisted to the right, and the next length (to which it is knotted) to the left, and so on; the alternate reverse twists preventing the line untwisting. For obvious reasons the hair should be from a horse, and not from a mare, the best coming from the tail of a young stallion. When twenty-two fathoms of black line have been made, white hair should be used for nine feet, or rather more, with three hairs less in each strand. To the end of the white hair should be fastened two yards of plaited silk, and to this two lengths of double twisted salmon gut. Then comes the hook.

On the black portion of the line, pipe leads (which are threaded on while the lengths are being knotted together) are

placed at intervals of two fathoms (twelve feet). The pipe leads are a little barrelled in the middle, and weigh half an ounce or more; the knots on the line prevent them slipping downwards. Nowadays the hair lines of the tackle-makers are twisted in one length, and no knots are required. The pipe leads are kept in position by means of wooden pegs. It is important to shift the leads occasionally, or the portions of the line which pass through them will soon rot if left wet and covered.

The only advantages that horsehair possesses over hemp or cotton are its elasticity and durability, the former doing good service when the fisherman is playing a large pollack *without* a rod. The two-strand hemp or cotton lines are also very elastic, but very rough to handle.

It should be unnecessary for me to point out that drift lining can only be pursued in a tideway where there is a sufficient stream to carry out the tackle. Those who go in a good deal for this sort of fishing frequently use five lines from one boat, which must be arranged in the following manner: On each side of the stern two lines with half-ounce leads are let out, and between them one without any leads whatever, the bait of which keeps near the surface by the force of the current. Then there may be two more lines, more heavily leaded than those at the stern, placed on each side of the boat about amidships, and these, of course, will sink to a lower depth than the others. Arranged in this way, three different depths can be fished. Unless the depth is known, it should be ascertained by means of a plumb line or sounding line. One advantage of having light leads placed at a fixed distance of two fathoms from one another is that those who use these lines can tell exactly how many fathoms of line are out and can regulate them accordingly.

It is a good plan, when more than one line is being used, to remove the tholepins and fix in the holes tell-tales, two-foot pieces of those canes commonly known as 'penny canes.' These will project about a foot to eighteen inches above the gunwale, and the spare lines may be fastened to the ends of them.

When a fish seizes the bait the cane bends, takes the first pull, and informs the angler of the bite. A little bell is sometimes fastened to the tell-tales.

There is a good deal of this sort of fishing carried on off the coasts of Devonshire, Cornwall, and the Channel Islands, the favourite bait being living sand-eels, contained in peculiar baskets called 'courges,' which are towed behind the boat. This method of drift lining is, of course, hand-line fishing pure and simple, though if the snood is long and fine it is as killing as any newer method. Still, I infinitely prefer to use a rod—either the boat rod already described or one about eleven feet, which is a convenient length for large pollack and bass. It must be strong, but may very well be made of East India cane with a greenheart top. The same line and reel may be used as for paternoster fishing. In fact our old friend the paternoster, with a very slight modification, will answer the purpose very well indeed if fitted with a lead so light that it will be carried out by the current. On the last loop of the paternoster fasten a swivel, and to this swivel attach three or four yards of gut, at the end of it being the hook. When I say 'gut' it must be understood that if the fish run large, the gut must be double or treble and of good quality.

For bass of size salmon gut is necessary. The largest of them may be caught on single salmon gut, provided it is new and sound and there is an abundance of running line on the reel. In the case of big pollack it is absolutely necessary to have tackle strong enough to give them the butt; for these fish have a nasty habit, as I will explain later on, of diving down to the bottom among rocks and seaweed unless they are firmly held. The first rush of a pollack, hooked over a weedy rocky bottom in water of little or moderate depth, must always be restrained. I have nearly had a rod dragged out of my hand by a pollack of only ten pounds; and even smaller fish have pulled the point of the rod under water.

The weight of the lead on the drift paternoster must depend on the speed of the current. A good average weight

would be two ounces, but half a pound or more might be necessary. It is a simple matter to add a few leads to the line

ARCHER-JARDINE LEAD

if the angler is provided with any like that illustrated, the excellent invention of Mr. A. Jardine, and known as the Archer-Jardine leads. The Norfolk lead, illustrated on p. 236, is also suitable for this purpose. When light weights suffice, large floats can be used; but if the water is deep and the float has to be at some distance above the lead, it is necessary to have what is known among freshwater anglers as a 'slider,' that is to say, a float which slides up and down the line, but is kept from going too high by means of a little piece of indiarubber band tied on the line. The construction of the float and also its appearance in the water are shown in the following illustrations. It is obvious that if the float is fixed firmly on the line twenty feet from the hook, it will be impossible to reel in the fish close to the side of the boat; for when the float is brought up to the top ring of the rod there will still be twenty feet of line between it and the fish. In such a case, therefore, the sliding float is absolutely necessary, for, as the line is reeled in, it slides down until it rests on the lead. The rod rings should be, of course, large enough to allow the knot and piece of indiarubber to pass freely through them.

Any large-sized float with a hole down the centre can easily be used as a slider. In default of anything better, one of the lumps of cork used to mark crab pots, cut to a decent shape with an old razor or sharp knife, and bored with a red-hot skewer, can be placed on the line. Owing to its size it carries

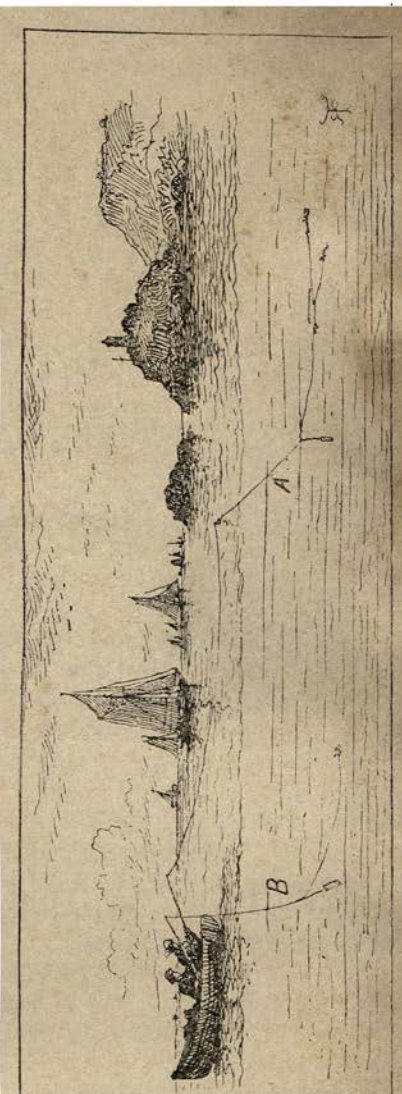
THE SLIDER FLOAT

only be obtained by long experience and practice.

In the accompanying illustration I have shown how the drift paternoster appears in the water, both with and without a float.

I have suggested a modified paternoster for this particular purpose, because I want to keep the tackle as simple and free from complications as possible; but I should certainly regard the pipe lead placed at the end of the line, with a swivel below it, and then three or four yards of gut, single, double, or treble (according to the size of the fish sought), as rather more suitable, though I doubt if an extra fish would be caught by its use.

The most usual baits for this method of fishing are live sand-eels, live rag-worms, and live shrimps.




PATERNOSTERS USED AS DRIFT LINES (A, WITH FLOAT; B, WITHOUT FLOAT

more lead than the float one buys at shops, which is often advantageous.

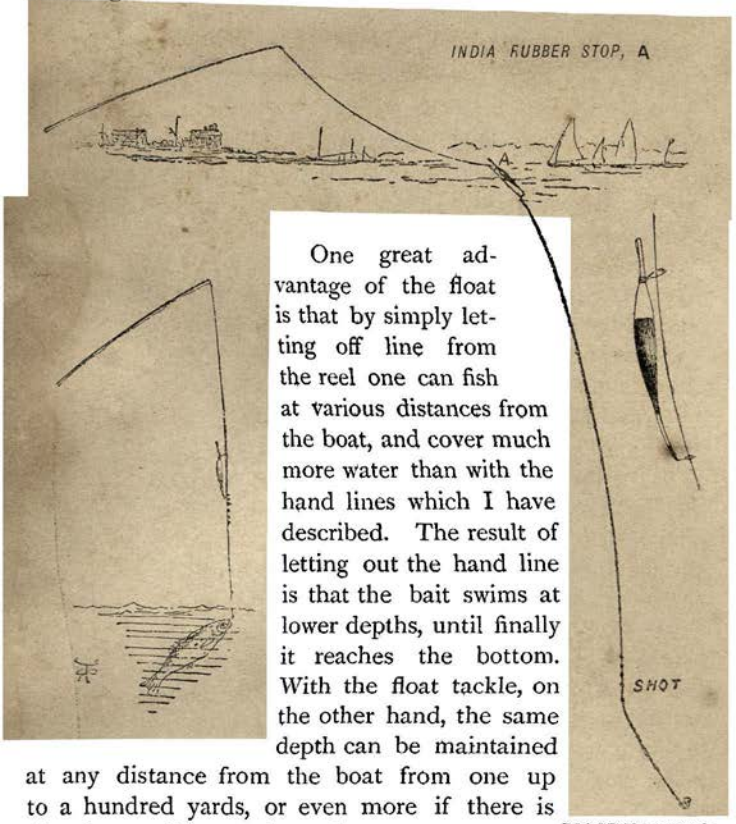



DIAGRAM SHOWING THE SLIDER FLOAT IN USE.

One great advantage of the float is that by simply letting off line from the reel one can fish at various distances from the boat, and cover much more water than with the hand lines which I have described. The result of letting out the hand line is that the bait swims at lower depths, until finally it reaches the bottom. With the float tackle, on the other hand, the same depth can be maintained at any distance from the boat from one up to a hundred yards, or even more if there is abundance of line on the reel.

In this, as in all other methods of fishing, the man who does not meet with success should do his best to discover the cause of his failure. His bait may be too deep or too near the surface, or the lead may be too heavy or too light. I regret it is impossible to convey in a book that faculty of correct judgment which can

Dead baits will also kill fish, but not nearly so well, and of these the best are dead sand-eels and strips of squid, mackerel or bass skin. If the bait is dead the fisherman should give a lively motion to it by frequently jerking his line. The principal fish caught are pollack, coalfish, bass, mackerel, and garfish.

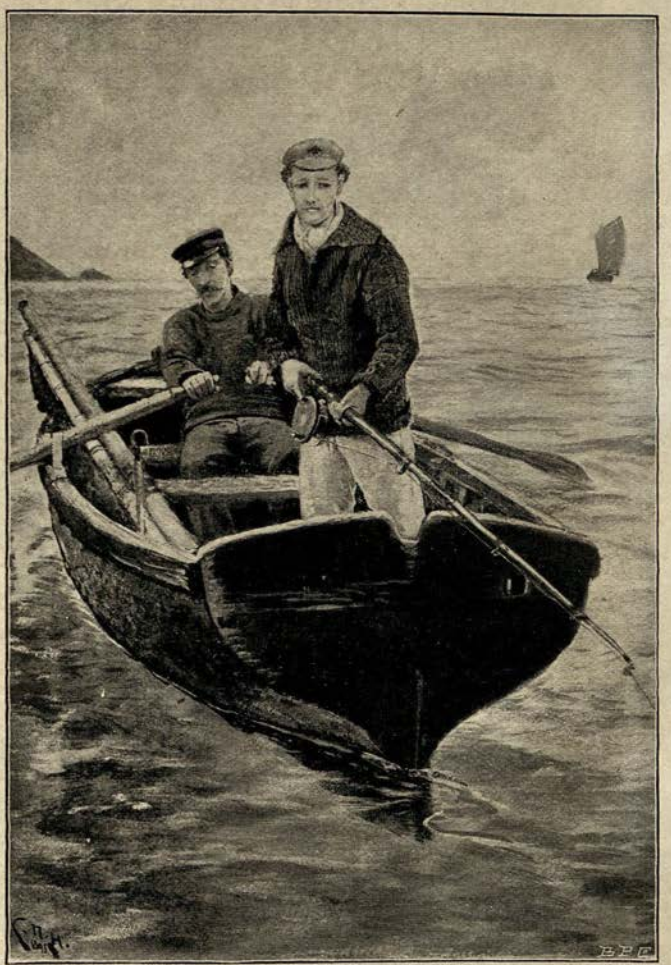
This completes all I propose to say here respecting fishing from a boat which is moored and as stationary as the motion of the waves will allow it to be. When we come to deal with the various kinds of fish, any special tackle and methods which are incidental to their capture will be described.

From a boat in motion, if we except casting the fly or bait or drifting with the tide, there is only one method of fishing —railing or whiffing, which is very similar to what is known on the Irish lakes as trolling, and in the South of England, and

PIPE LEAD WITH HOOK SWIVEL

particularly on the Thames, as trailing. There is this difference, however—that on the sea it is not nearly so necessary to use a bait which spins as in fresh water.

The first point which the would-be trailer, railer, whiffer, or troller, as he may like to call himself, should most thoroughly appreciate is that the size or weight of the lead should depend on three things: (1) the speed of the boat; (2) the depth at which the fish are to be found; and (3) the size of the running line; for if the line be coarse it will require a heavier lead to sink it than if it be fine. Of these three things the first is the most important. If we are on a yacht doing about seven knots an hour, it is necessary to have a lead of two, three, or even more pounds in weight. But in a small boat which travels slowly a two-ounce lead will often suffice. Use that lead from a yacht, and the bait will be skipping along the surface of the water most of the time. Another factor to be taken into con-



'WE CAN ABJURE THE PROFESSIONAL GEAR'

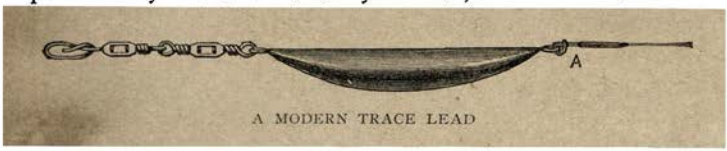
sideration is the length of line let out behind the boat. Often when unprovided with sufficiently heavy leads I have, by simply unreeling twenty or thirty extra yards of line, sunk the bait to a proper depth. The foregoing are just those elementary principles which should be understood at the outset.

With regard to mackerel fishing from a small rowing boat, the same number of fish are not likely to be caught as from a sailing vessel, because twice as much water will probably be covered in the course of the day by the faster craft. Indeed it often happens that the mackerel will not take the bait unless it is drawn through the water faster than can be managed with a rowing boat, and I fancy that the splash of the oars has a tendency to frighten them.

For small-boat fishing we can abjure the professional gear and use much the same sort of tackle as would find favour with a salmon harler on Loch Tay or the trailer for Thames pike ; I should, perhaps, say which 'used' to find favour with the Thames trailer, for this method of fishing has now been entirely abolished on the river. But though ordinary spinning or trailing tackle suffices, for reasons which are not quite clear to me I have always found it best in the sea to use a much longer line (i.e. snood) below the lead than seems to be required in fresh water.

Of leads there are many patterns, but the best of them are those the centre of gravity of which is below the level of the line. The old system was to have the trace running through the centre of the lead. Swivels notwithstanding, twisting and kinking of the line above the lead frequently took place. Now that the lead nearly always hangs below the level of the line, the lead does not turn over, and kinking above it is impossible, unless a very powerful spinning bait is being used and the swivels are not in working order. In the event of none of the specially designed leads being available, the ordinary pipe lead can be adapted by placing a short piece of gut, gimp, or line through it and lashing the two ends on to the trace. It will then be below the level of the line and effectually stop kinking,

assuming that there are any swivels beyond the lead. Sea fishermen have been aware of the advantage of this arrangement for generations. The late Mr. Francis Francis introduced a lead of the kind into freshwater fishing, and his ideas were still further perfected by Mr. Cholmondeley Pennell, whose excellent leads

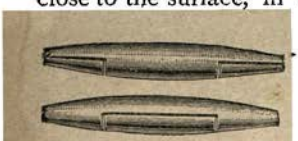



A MODERN TRACE LEAD

for pike fishing are well known. The above illustration shows a first-rate lead for spinning traces, greatly favoured by freshwater anglers ; but what is perhaps a still greater improvement has been introduced by Mr. Geen, in whose invention, as will be seen from the illustration, the swivels and leads are one.

GEEN'S LEAD

When fishing for pollack it is very often desirable to vary the depths of the bait according to the time of day and the depth of the water ; for while in the evening these fish may be hooked close to the surface, in the daytime they cannot be caught at all unless the bait is dragged close to the rocks and weeds just in front of their eyes. Many a professional fisherman will say that railing for pollack in the daytime is time wasted ; but those who have learned the secret often capture very nearly as many fish before sunset as afterwards. If I am failing to secure pollack in the daytime, I keep on increasing the weight of lead until I find my hooks catching in the seaweed. Then I reduce the length of the line by a few yards by simply reeling it up, which will cause the bait to swim



NORFOLK LEAD

a foot or two higher, and I feel satisfied that the bait is just clearing the weeds.

Where the lead is a permanent fixture on the spinning trace, as is often the case with the productions of the tackle shops, this lead-changing is a great nuisance. One way of dealing with the difficulty is to have leads of various weights fitted at each end with strong hooks, such as those shown attached to the Geen lead. Another method is to use either a 'Fishing Gazette' lead, which, it will be noted, is mounted on a sort of safety pin, a Norfolk or a curved 'Jardine' lead. The way they are applied to the line can be easily gathered from the illustration. Failing these, ordinary pipe leads can be curved (a piece of wire through them the while to keep the hole open), and mounted with long loops of gimp at each end. These are easily strung together, or hook swivels can be substituted for the loops.

'FISHING GAZETTE' LEAD

ARCHER-JARDINE LEAD CURVED

In a pike or salmon trace there is generally gut or gimp both below and above the lead; but in sea fishing it is more convenient to have nothing above the lead except the running line, on which it is easy to fix one or more adjustable leads as may be required. Immediately below the lead should be fixed a strong double swivel.

Sometimes, and particularly when using a metal bait, no lead is required on a trace. In that case it is a capital plan to fix a piece of lead or copper wire above the double swivel in the manner shown in the illustration overleaf. It compels the swivels to work and prevents kinking of the line.

When mackerel are near the surface, an ounce lead may be found sufficient, and the weight can be increased up to three or

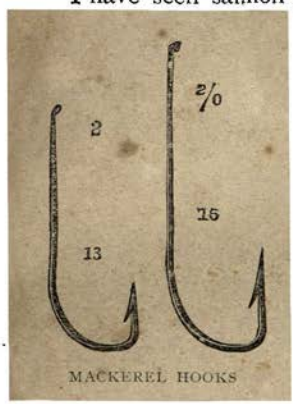
even four ounces if the fish do not come to the hook. Mackerel tackle, for use from small boats, is very simple: to the

SWIVEL COMPELLER

end of your running line attach your Geen or similar lead, then three or perhaps four yards of lake-trout gut, and at the end a hook of a size between those shown in the illustration. The best bait for mackerel is illustrated on p. 97.

If the fish are large, plentiful, and biting freely, a large hook is best, as it is speediest removed from the mouth of the fish. But when the mackerel are shy a small hook is great medicine, as I have proved times and oft.

I have seen salmon gut and even twisted gut used for a mackerel snood. This is absurd when fishing with a rod from a rowing boat, for the fish only run from a half to two pounds as a rule, and may be caught with very light tackle. In fine, calm weather fairly fine tackle is a decided advantage, and the value of silkworm gut in this connection has been recognised by hosts of professional fishermen, many of whom never think of mackerel fishing without a yard or two of gut at the end of their snooding.




MACKEREL HOOKS

For bass railing, either first-rate salmon gut should be used below the lead—and three yards[1] of it will not be too much—or else slightly lighter gut, double or treble. But these fish are shy, and in bright, calm weather the angler will be well advised to fish as fine as he dare. If he is an expert trout fisherman,

[1] A trace thus constructed is unsuitable for casting out. For that purpose the lead must be at the most four feet from the bait.—J. B.

used to catching fish of three or four pounds on fine-drawn gut, he will hardly need stout salmon gut to bring to boat a bass of five or six pounds; but, of course, if he is not accustomed to use fine tackle, he will be well advised to begin by using something very strong and trustworthy.

With pollack, on the other hand, very strong, sound tackle is absolutely necessary; for these fish are enormously strong, and their first rush, which must be checked, is, as I have pointed out, always downwards towards their haven of refuge among rocks and seaweed. Once they reach a point of vantage, there is no dislodging them, and the tackle has to be broken. Only once in my life have I ever succeeded in catching a pollack which had reached the bottom. It was a large fish of six or seven pounds, if I remember rightly, and having some doubt about the strength of my trace, I did not hold him very firmly, and so he weeded me. There he stuck, and, though with a long sweep we were able to reach the bottom and poke about among the rocks and seaweed, there seemed no chance of moving him. The old plan of checking a runaway salmon by suddenly giving him a slack line occurred to me. The theory, of course, is that the fish, imagining he is free, stops in his course, and may even head in the other direction. I determined to try this delusion on my pollack. Holding a few yards of slack ready in my right hand, I pulled as heavily on the line with my left as it would bear, then suddenly released it and threw the slack overboard. Then I sat still, and patiently waited developments. Presently I saw the line going away from me at an angle with the boat, and just as it was about to tighten I seized it and hauled up the fish. I have been careful since to let a pollack break me rather than allow him to reach the seaweed, so have never had occasion to repeat the experiment. The incident happened during one capital day's lythe fishing I had on the north-west coast of Scotland, a few miles south of Scourie. I should add in this connection that there are pollack grounds where piscine havens of refuge are wanting, and the fish can be played in the ordinary way.

There is pollack fishing and pollack fishing. In the spring, for instance, quantities of baby fish are caught half a dozen at a time on the Devon and Cornish coasts, and these, of course, only require fine tackle. It is usual to have a spinner on the end of the line, and four or five, or even more, white flies or those peculiar local baits, Belgian grubs (illustrated on p. 127), between the lead and the end of the trace. There are not many parts of this coast where very large pollack are commonly caught, but it was off Cornwall that Lord St. Levan caught the specimen pollack already recorded.

Good salmon gut double, or lightly twisted, is, generally speaking, strong enough for pollack up to twelve pounds; but for fish above that weight—which I again repeat must, as a rule, be held, and cannot by any possibility be played, at least over rocks and seaweed—I would prefer something still stronger, such as treble gut or stout gimp. The running line, of course, must be proportionately strong.

Under the headings 'Pollack,' 'Artificial Baits,' and 'Natural Baits' I have dealt more at length with this branch of sea fishing, and the remarks on bass and mackerel in the pages devoted to those fish should also be carefully noted.

Harling in the tidal reaches of a river for bass or other fish may be carried on almost exactly as it is done in Scotland and Ireland in fresh water. It has the great advantage of presenting the bait to the fish before the boat has passed over them, and with such shy creatures as bass this is a point of considerable importance. It is, in fact, very similar to the drift-line fishing already described, only instead of being at anchor the boat is slowly rowed across the current which carries out the line to a considerable distance. At each turn fresh water is covered, and sooner or later the fish will be met with. Either the drift-line tackle or the trailing or railing tackle already described answers very well for this purpose, and live baits are far better than those which are artificial or dead. Large mud or rag worms and live sand-eels are among the best that can be used. This plan can be followed in any tideway, not

HARLING WITH DRIFT LINES

necessarily in estuaries. For instance, in channels between large islands and the shore there are often very strong tidal currents in which are found bass and pollack, and these places can be easily harled.

If, when harling, a large shoal of fish is met with, it is sometimes desirable to let down the anchor or stone and try for them with the drift lines, using live baits; but often it will be found that more fish will be taken by harling than by remaining stationary in one spot. The drift-line harling with live baits, described in the previous paragraph, is particularly deadly.

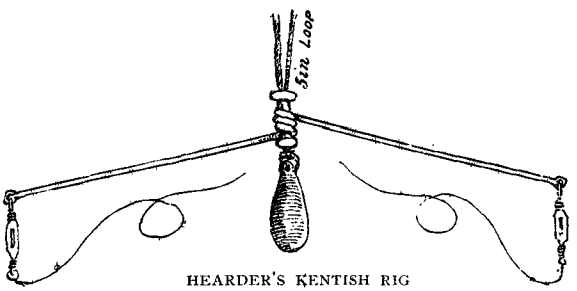
Of course there is nothing to prevent the sea angler casting a spinning or other bait from a boat, either off the reel or in Thames fashion, after the manner described in the chapter on Fishing from Piers, Headlands, &c., p. 173, &c. In special cases where harling is out of the question, and the fish cannot be covered by railing, or where it would be undesirable to row a boat over or near them, this plan is the best that can be followed.

Heavily leaded float tackle can be cast out in exactly the same manner—just as a freshwater fisherman will cast out a live-bait tackle for pike. I have dealt with the method exhaustively in the chapter already mentioned.

There is a method of whiting fishing, carried on while the boat is in motion, which I have seen practised with success at Ilfracombe and other places. It is only suitable for fishing grounds where the bottom is not very foul, and the fish are abundant and widely distributed. Either paternoster tackle or ordinary hand lines are used. The boat is allowed to drift up or down channel with the tide and back again. Fairly light leads can be used, as there is no pressure of water on the lines unless an adverse wind checks the boat. By these means fishing grounds can be worked over which, owing to the fierceness of the tidal current, no small boat could be moored, or where the bait could not be kept near the bottom with leads of reasonable weight so long as the boat was at anchor.

With regard to hand lines, the most ancient form, and that

still most commonly used, consists of a lead and a spreader, from the two ends of which dangle snoodings with hooks. There are several varieties of this tackle; the best of them is perhaps the Kentish rig, of which an improved form, invented by Mr. Hearder, is illustrated on this page. A loop of line, which the maker would be well advised to make at least five inches in length, holds the lead. On it is a piece of brass piping with rolled edges, and on the piping is the twist of wire the ends of which are prolonged and form the spreaders. By pushing up the piping (which saves the line from friction) the lead is easily unlooped and a heavier or lighter one put in its place. To each end of the spreader should be fixed a small swivel, and



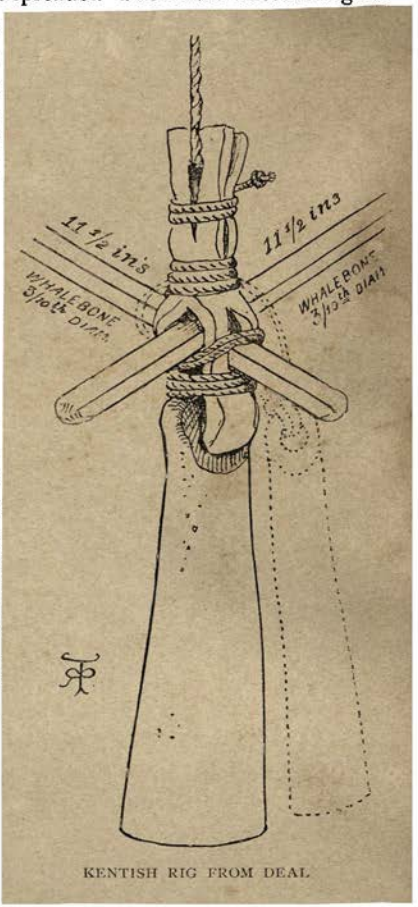

HEARDER'S KENTISH RIG

to this the snood, which may be about a yard or less in length, and when possible of gut, should be attached.

The construction of a true Kentish rig is shown in the second illustration. There the spreaders are of whalebone, and they and the lead are held together by a strip of leather. Additional leads, indicated by the dotted lines, are added when required.

I have sometimes used an ordinary eight-plait tanned hemp reel line as a hand line. It has the advantage of requiring a comparatively small lead, owing to its fineness. But these fine lines cut the hands, and to fish without a rod with any degree of comfort something stouter is required. A hand line should be cable-laid, of hair, cotton, hemp, or flax, and dressed, to

prevent kinking, and there should always be a swivel between the end of the line and the spreader. The cotton lines are in great favour; but best of all, though expensive, is a hair line—best because *of its elasticity*. The *comparative* sizes of hand and other lines are illustrated in the following chapter.



KENTISH RIG FROM DEAL

The lighter the lead the better, so long as it will keep the tackle near the bottom. As a general rule, immediately a bite is felt, the fisherman should haul in the line, hand over hand, letting it run over the gunwale of the boat, which helps to play the fish, and scrapes off a good deal of the water which would otherwise come inboard.

The snooding or portion of the tackle immediately next the hook must be a good deal stronger than if a rod is used, for though an expert is able to play a fish with his hands to a certain extent, it is impossible to prevent sudden strains and jerks which are certain to break light tackle. When using a hand line I much prefer a strong twisted gut paternoster at the end of it to a Kentish rig, but if the fish run small,

say 3 lbs. or less, the hook links should be of single gut. I have seen both Kentish rig and paternoster worked on hand lines from the same boat. More fish were killed on the paternoster than on the professional gear.

On the whole, I am inclined to think that to knock about in a small boat, with a skilful boatman and a good supply of the right bait, yields as much amusement as any to be obtained from sea fishing. The sport is far more certain than that obtained from pierheads or rocks, and it is a great convenience to be able to carry all one's tackle and sundry impedimenta about without difficulty.

In a sailing vessel we are entirely dependent on the wind, though, on the other hand, there is the advantage of fishing more distant grounds which it would not be safe to venture upon in the small open boat. There is, of course, that poetry of motion which is not thoroughly appreciated by the great majority; but, as I have pointed out, there are many inlets of the sea, and large estuaries, harbours and the like, as calm as need be, and these may be commended to 'bad sailors,' to use a term which is well understood, but maybe lacks scientific accuracy.

# CHAPTER VIII

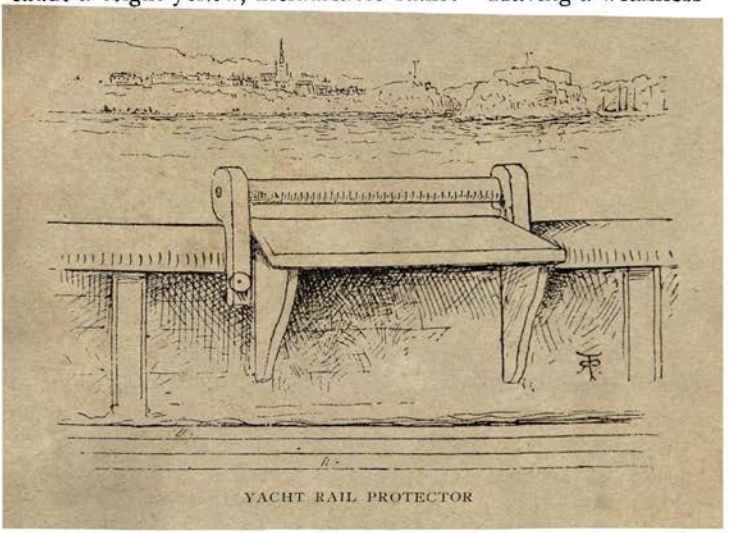
## SEA FISHING FROM YACHTS AND LARGE FISHING BOATS

YACHTS and other vessels are often so situated that a good deal of the more delicate kinds of sea fishing may be enjoyed from their white decks. For instance, when they are moored in a Scotch sea loch, or in any shallow bay or roadstead, it is as easy to fish from them with rod and line as from a small boat. But in this chapter I propose to give some account of the heavier tackle and methods by which fishing is carried on in deep water at some distance from the land, where it would be unsafe for small boats to venture. Under this heading also comes the subject of whiffing under sail, in which for large fish very strong tackle is necessary.

It has often been a matter of surprise to me that yacht-owners do not, as a rule, take more interest in sea fishing. Perhaps it is because their opportunities are so great that they fish so little. Just as there are many people who have lived in London all their lives without going to see St. Paul's or Westminster Abbey, and three generations of whom may dwell in England without any one of them making a pilgrimage to Shakespeare's resting-place. It is the country cousin and the globe-trotting American who sail straight away for Westminster and the banks of the Avon respectively. Certainly people who live on the seacoast fish less than occasional visitors.

The Prince of Monaco's great interest in the scientific side of sea fishing is well known. English yacht-owners might render national service if they would follow his example and

avail themselves of their magnificent opportunities to make a thorough study of the natural history of sea fish and the best means of catching them. But then, those spotless planks! What a sorry plight they are in after a night's hand lining for big conger, or when a shark five feet long has been hauled aboard! Or imagine a few lugworms dropped about the deck and trodden in! Why, the mere reading of such a thing is enough to turn some men faint—for does not the lugworm exude a bright yellow, ineradicable stain? Having a weakness

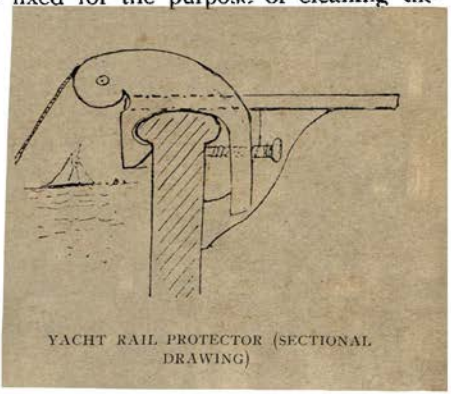


YACHT RAIL PROTECTOR

or a strong love myself—as you may please to consider it—for that perfect cleanliness, brightness, primness and order which are nearly always found on an English yacht, I would venture to suggest that those who take to sea fishing should have a piece of oiled canvas, tarpaulin, or even common oilcloth or linoleum, to protect the portion of the deck where the fish are being hauled on board.

Mr. Basil Field tells me that on a yacht from which he did a good deal of sea fishing, a means was devised of slightly mitigating the mess, and, in the case of hand lines, preventing

injury to the rail of the vessel. The lines were hauled over a bracket-shaped ledge, on which the head of conger or other fish could be rested for a moment while the happy despatch was administered. It received the first of the mess. The size and exact shape of this arrangement are very much a matter of taste, but if fitted with a roller—as in the illustrations—to reduce the friction of the line, so much the better. It is best made of oak or other hard wood at least an inch thick, and is hung on to the rail just as a kettle-stand is hooked on to the fire-bars. In London I have noticed servants sitting on brackets so fixed for the purpose of cleaning the outsides of windows. For one man to work a line over it, the protector should be about three feet long and a foot or a little more wide. I have often thought that sheaves for lines to work on might be fixed on the rails of fishing boats with advantage. They would lessen the labour by decreasing friction, and save wear to both vessel and line.



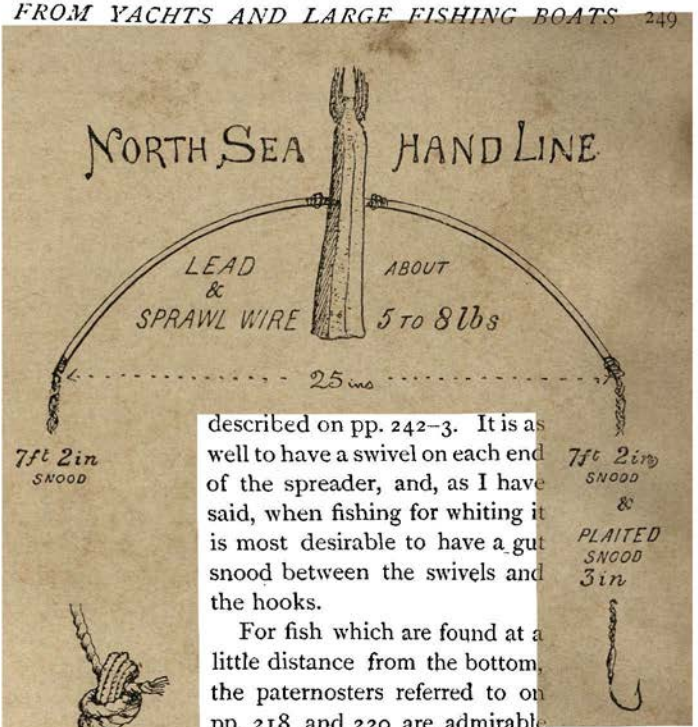
YACHT RAIL PROTECTOR (SECTIONAL DRAWING)

I have no doubt that many yachtsmen and yachtswomen, particularly the latter, object to sea fishing because of the weight of the leads ordinarily used, and the handling of the wet lines. While it is of just such tackles that I have to write in this chapter, I would strongly urge every intending sea fisher, whether yachtsman or not, to give the very short boat rod and line described on pp. 25 and 212 a thorough trial. It will carry a two- or three-pound lead, and a sinker of that weight on a fine line is as effective as a much heavier sinker on a coarse hand line. I have never worked the thing out with any

degree of accuracy, but I should say that a two-pound lead on the fine Nottingham twisted line will hold the bottom in a tide-way where four or even more pounds of lead would be required on the ordinary hand line. Where this rod tackle can be employed the greatest objection to sea fishing is removed. If the necessary weights at the end of the line will allow a rather longer rod to be used from yacht or large fishing boat, so much the better, for with the very short rod it is not always easy to keep a lively fish from fouling the keel or sides of the vessel. With hand lines one is at a still greater disadvantage. Eleven feet is a convenient length for a rod if the weight does not exceed about a pound or a pound and a quarter. With reference to this point, it should be mentioned that, if the tackle is a paternoster in which the top hook is far above the lead, the rod must be of corresponding length. Otherwise a fish on the lowest hook could not be brought within reach of gaff or net. A big rubber ball or button at end of rod to rest on the hip, and the placing of the winch fittings some eight inches above it, make the handling of long rods more pleasant when heavy ends are used.

In deep water, where at any time a large fish may be expected, it would be hardly wise to fish with the single gut paternoster recommended for small-boat work, unless whiting are the particular fish sought after, and then it is a decided advantage to use fine gut. Of course, the deeper the water, the less light there is at the bottom; and in the gloom of fifteen or twenty fathoms fish are not so observant of coarse tackle as they would be in four or five fathoms. Out in open waters, too, there is generally more or less of a sea which diminishes the light below the surface.

Suppose, now, we are fishing a very deep place where such heavy leads are required that a hand line *must* be brought into requisition; the exact form of tackle to be used should depend on the variety of fish which are about. For bottom-feeding fish, if the tidal current is not strong, there is nothing much better than the Kentish rig, which has been illustrated and

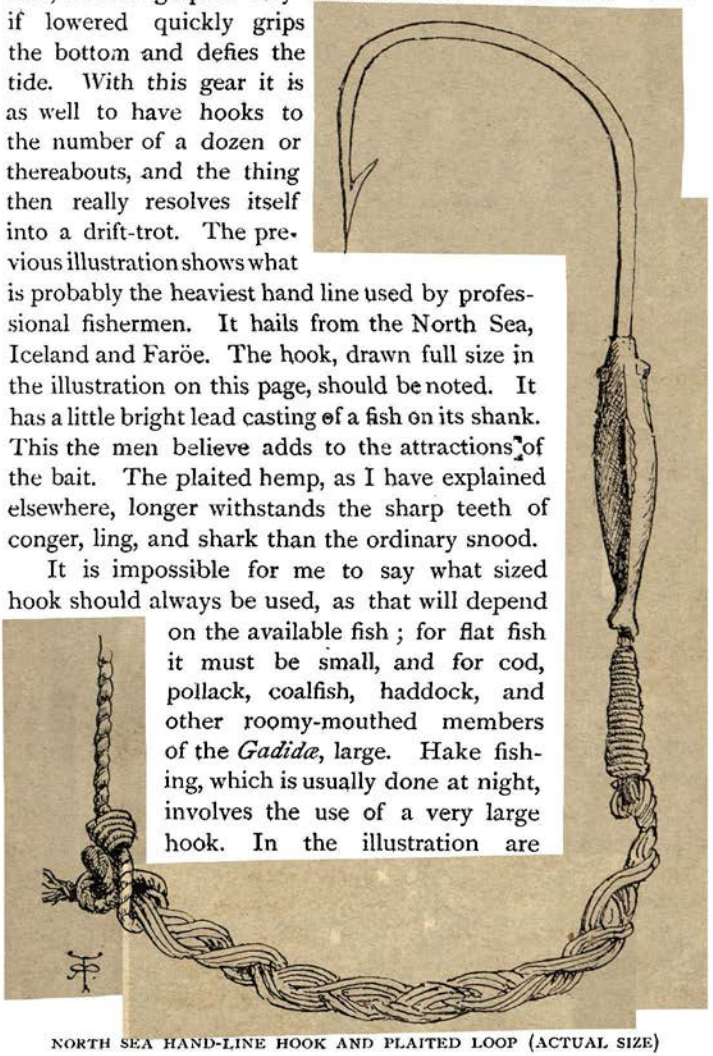



described on pp. 242–3. It is as well to have a swivel on each end of the spreader, and, as I have said, when fishing for whiting it is most desirable to have a gut snood between the swivels and the hooks.

For fish which are found at a little distance from the bottom, the paternosters referred to on pp. 218 and 220 are admirable tackles, fishing at different depths. A paternoster for use on a hand line can be made up with the hook links placed any distance apart the fisherman pleases. In a heavy current where the water is deep, one of the best gears is simply a boat-shaped lead with a long snood bearing one or two hooks below it. But I rather prefer to stick to the paternoster, merely varying it to meet the case by prolonging the lower hook link to a fathom or thereabouts. There is really no object in having a large number of different forms of tackle where one will do. In

a very powerful current which would be otherwise unfishable, a small grapnel may be substituted for the lead. This if lowered quickly grips the bottom and defies the tide. With this gear it is as well to have hooks to the number of a dozen or thereabouts, and the thing then really resolves itself into a drift-trot. The previous illustration shows what is probably the heaviest hand line used by professional fishermen. It hails from the North Sea, Iceland and Faröe. The hook, drawn full size in the illustration on this page, should be noted. It has a little bright lead casting of a fish on its shank. This the men believe adds to the attractions of the bait. The plaited hemp, as I have explained elsewhere, longer withstands the sharp teeth of conger, ling, and shark than the ordinary snood.

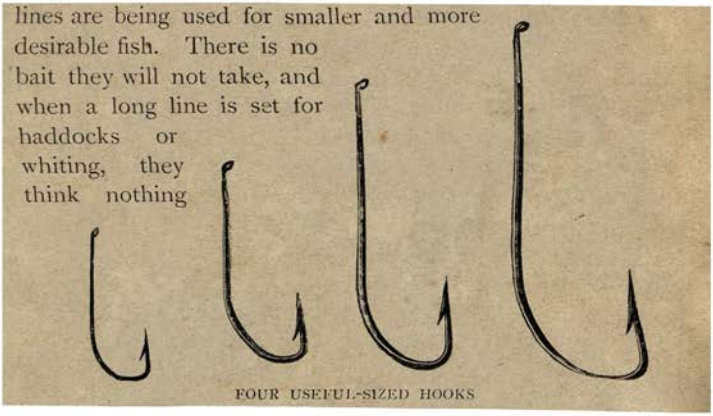
It is impossible for me to say what sized hook should always be used, as that will depend on the available fish; for flat fish it must be small, and for cod, pollack, coalfish, haddock, and other roomy-mouthed members of the *Gadidæ*, large. Hake fishing, which is usually done at night, involves the use of a very large hook. In the illustration are



NORTH SEA HAND-LINE HOOK AND PLAITED LOOP (ACTUAL SIZE)

hooks of four very useful sizes, with which the yachting fisherman should certainly be provided. Those which are eyed are certainly the most convenient. For soft-mouthed sea fish I am very partial to what is known as the twisted Limerick. Those illustrated are the well-known Pennell-Limerick pattern. There are some further remarks respecting hooks on p. 64 which should be noted.

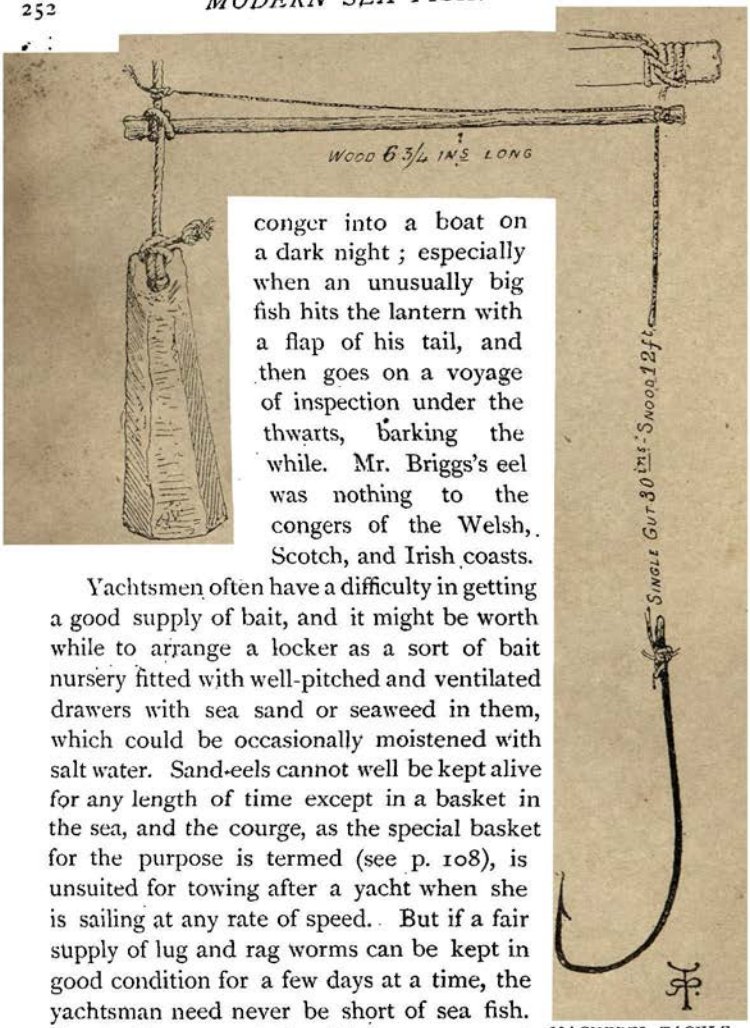
Sharks are such destroyers of other fish that, apart from sporting considerations, their capture is very desirable. They are not, as a rule, sought after in British waters, and are often caught and still more often lost when hand lines are being used for smaller and more desirable fish. There is no bait they will not take, and when a long line is set for haddocks or whiting, they think nothing



FOUR USEFUL-SIZED HOOKS

of swimming along the row of hooked fish and picking them one by one off the hooks. More will be said of these voracious creatures later on.

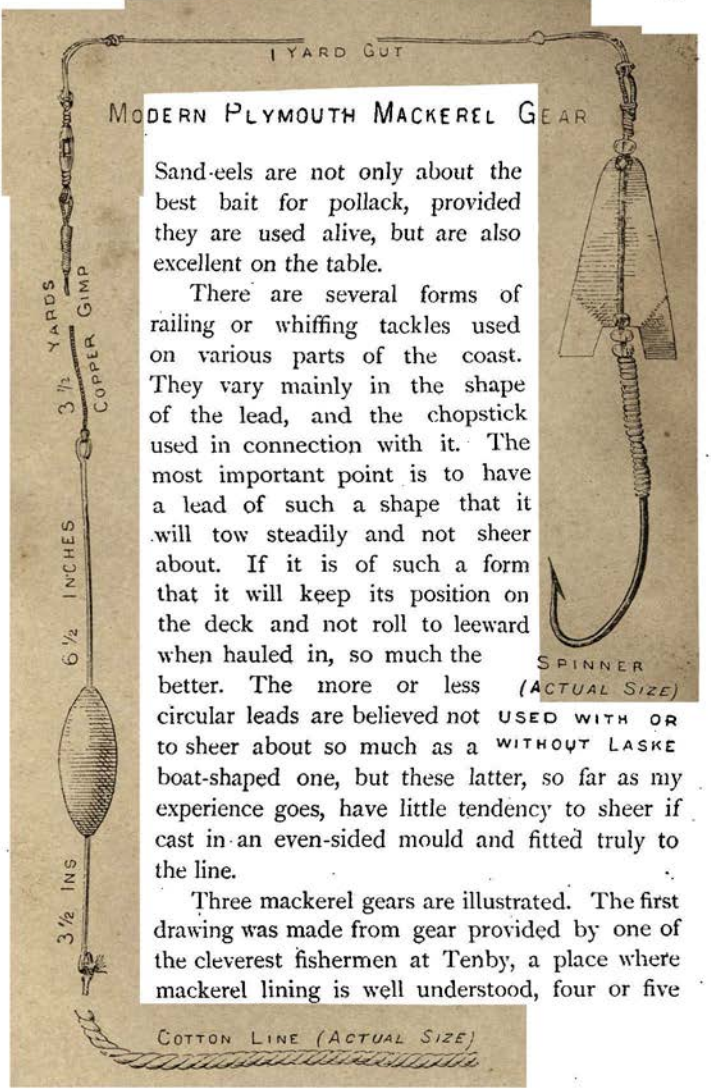
Yachting gives splendid opportunities for conger fishing. The largest congers often dwell among reefs of rocks in deep water at a long distance from the shore, where it would not be safe on the finest night to anchor a small boat. But in suitable weather a yacht can lie to or be anchored beyond the rocks while the fishing can be carried on from one of her boats, she being at hand, of course, in case of bad weather coming on suddenly. There are few things more exciting than hauling big




MACKEREL TACKLE
(SOUTH WALES)

conger into a boat on a dark night; especially when an unusually big fish hits the lantern with a flap of his tail, and then goes on a voyage of inspection under the thwarts, barking the while. Mr. Briggs's eel was nothing to the congers of the Welsh, Scotch, and Irish coasts.

Yachtsmen often have a difficulty in getting a good supply of bait, and it might be worth while to arrange a locker as a sort of bait nursery fitted with well-pitched and ventilated drawers with sea sand or seaweed in them, which could be occasionally moistened with salt water. Sand-eels cannot well be kept alive for any length of time except in a basket in the sea, and the courge, as the special basket for the purpose is termed (see p. 108), is unsuited for towing after a yacht when she is sailing at any rate of speed. But if a fair supply of lug and rag worms can be kept in good condition for a few days at a time, the yachtsman need never be short of sea fish. On the Devon and Cornish coasts several yacht-owners possess the fine meshed seine nets, shown on p. 107, made specially for catching sand-eels




## MODERN PLYMOUTH MACKEREL GEAR

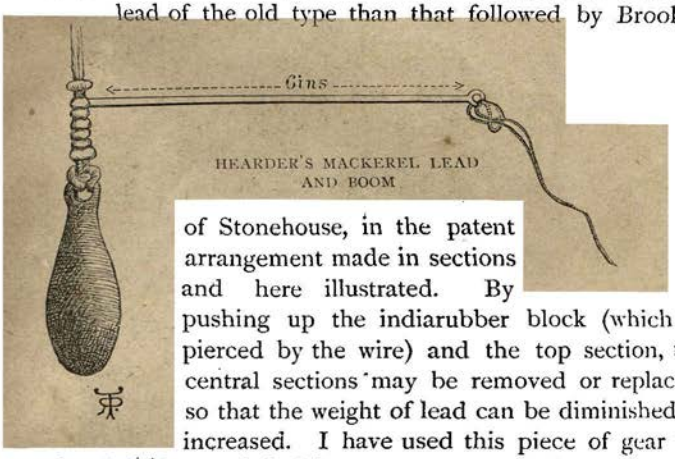
Sand-eels are not only about the best bait for pollack, provided they are used alive, but are also excellent on the table.

There are several forms of railing or whiffing tackles used on various parts of the coast. They vary mainly in the shape of the lead, and the chopstick used in connection with it. The most important point is to have a lead of such a shape that it will tow steadily and not sheer about. If it is of such a form that it will keep its position on the deck and not roll to leeward when hauled in, so much the better. The more or less circular leads are believed not to sheer about so much as a boat-shaped one, but these latter, so far as my experience goes, have little tendency to sheer if cast in an even-sided mould and fitted truly to the line.

Three mackerel gears are illustrated. The first drawing was made from gear provided by one of the cleverest fishermen at Tenby, a place where mackerel lining is well understood, four or five

hundred fish sometimes being taken by a single boat before midday. The illustration on the previous page is of the gear commonly used by the Plymouth fishermen, who, it will be noticed, now use a corpulent cigar-shaped lead, cast on brass or galvanised iron wire, having given up their old gear, which was somewhat similar in principle to the Tenby tackle. Thirdly is a drawing of a neat amateur gear designed by Mr. Hearder, of Plymouth. Here a wire boom works round a piece of brass piping passed over the line.

I do not know a better outline for a mackerel whiffing lead of the old type than that followed by Brooks,

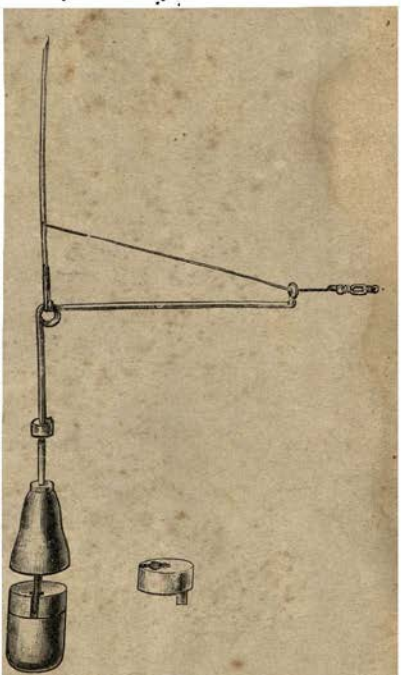



HEARDER'S MACKEREL LEAD AND BOOM

of Stonehouse, in the patent arrangement made in sections and here illustrated. By pushing up the indiarubber block (which is pierced by the wire) and the top section, the central sections may be removed or replaced, so that the weight of lead can be diminished or increased. I have used this piece of gear for mackerel fishing and find it answers exceedingly well. The idea originated with the Rev. F. W. Tracy and was perfected by Messrs. Brooks. It is a good lead, too, for fishing on or near the bottom, a long snood with three or four hooks being attached to the swivel. It will be noticed that when a fish is hooked it pulls not immediately on the lead, but on the line a foot above it. A bite is thus more easily felt by the fisherman than with other gears, particularly if the lead is resting on the bottom. I regard it as a very valuable invention. The wire boom prevents it rolling about when hauled inboard and laid on a thwart.

MACKEREL WHIFFING

Some of the best lines for snoods I have seen are those manufactured by the Manchester Cotton Twine Spinning Co. About thirty yards or fifteen fathoms of mackerel main line is required ; and below the lead there should be about four yards of fine snooding, then a brass swivel and two yards of gut terminated by a single hook. Many amateurs' snoods are now made of gimp tailing off into gut. This arrangement kinks and entangles far less than hemp or any piece of soft line.



PATENT VARIABLE LEAD WITH SENSITIVE GEAR

The usual weights of lead are three pounds, two pounds, and one pound, two pounds being perhaps the one most generally useful for fishing from yachts. When there is a very slight breeze, and the yacht is hardly moving, leads of a few ounces only are quite sufficient, and will catch many more fish than those of greater weight. Large yachts often tow leads weighing as much as four pounds, but if the vessel is sailed at the right speed so much lead is not required.

The length of line let out is not as a rule very great, ten yards being often deemed enough with the three-pound lead. When the fish are feeding well, it is obviously a disadvantage to have more line out than is necessary, because time is lost in hauling in. But on bright days, when the fish are shy, and particularly if the yacht is a large one, it is

desirable to have a light lead, let out a long length of line, and use a rather small hook.

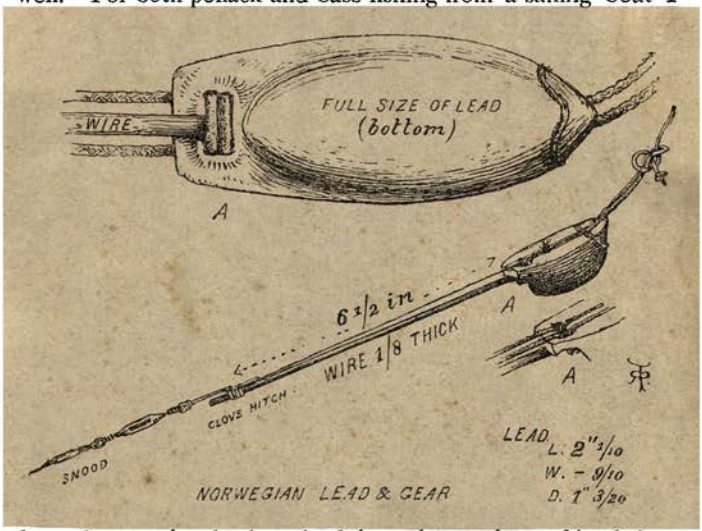
A common practice of professional fishermen is to have out two pairs of lines, or even more, bearing different weights, and therefore fishing at different depths. Lines are frequently boomed out, and in small yachts it is a simple matter to rig them out at the end of the sweeps. Two lines can thus be worked on each side of the yacht. Four lines will keep two persons busily employed if the mackerel are plentiful. In the Bristol Channel, lines which are boomed out in this way are brought into the boat by means of a leader, an extra piece of line made fast to the mackerel line a fathom and a half below the end of the boom and brought inboard. By this means the outside lines can be brought within reach of the hand without interfering with the booms, which should be firmly fixed in position. On the Cornish coast, where, as off Devon, this mackerel railing is often termed 'plummeting,' fishermen frequently use a long stick with a hook on the end to get hold of the boomed-out lines. Just such a leader as above described is shown in the illustration of the ocean fishing rod in Chapter IX.

At Plymouth the usual custom among the professional fishermen who are expert mackerel catchers is to have six lines. From each side of the stem are heavily leaded lines, from amidships two lines less heavily leaded, and from each side the stern two with still lighter leads. These stern lines are boomed out and have a tripping line attached to haul them within reach. The boat is sailed two or three miles an hour, and a couple of men can soon haul in a few hundred mackerel. The cigar-shaped gear must be free from the vice of sheering to be used in this way. The spinner (p. 253) is sometimes used without other bait.

On p. 238 I have given an engraving of two hooks, one for use in places where the mackerel are small, the other for large mackerel. On the question of baits I must refer the reader to page 97, and merely say here that quite the best is a triangular piece of skin cut close to the tail of a mackerel. It is not well to sail too fast when mackerel fishing; about three knots

an hour is quite fast enough, and sail must be reduced if necessary.

In reeling, railing, or whiffing[1] for pollack—to turn to another subject—considerable judgment is required. With regard to the lead, the lighter it is the better, certainly, provided that by letting out plenty of line the bait can be brought near the bottom. But in the evening time, when the fish come to the surface, a lead of a few ounces will answer very well. For both pollack and bass fishing from a sailing boat I




have been using lately a lead brought me by a friend from Norway. I have also found it a good piece of gear for mackerel fishing. It is sufficiently explained by the illustration. It tows very steadily, and probably would not frighten the fish so much as some other forms of lead. It inclines to the shape of a somewhat dumpy sea-boat.

[1] These terms are used indiscriminately by fishermen, and there are other local words meaning much the same thing. I have seen it asserted, however, that *whiffing* is more properly applied to trailing a line after a boat which is being rowed, while *reeling* or *railing* is the same process carried on from a yacht or other sailing vessel.—J. B.

The snood for pollack or bass must, of course, be very much stronger than that used for mackerel. It must be something which will not only hold a fish of 25 lbs., but that will stand the sudden jerk when the fish seizes the bait. It is never safe when pollack or bass fishing to make fast the line; for even if a large fish does not break the snood, the hook tears out. As tending to moderate some of the suddenness of the pull, the use of really good horsehair or two-strand cotton lines is recommended; for they possess so much elasticity that the fish is played on them almost as if it were on a rod.

In the chapter on Ocean Fishing a clever gear is described, which enables fish of one or even two hundredweight to be hooked and held while the vessel continues her course. There seems no reason why similar gear, on a much smaller scale, should not be used for pollack and bass fishing from yachts. Another method of meeting the first pull of a fish on an otherwise more or less rigid line is to take a piece of round, solid indiarubber about eighteen inches in length and join the two ends of it to two points in the line 3 ft. 6 in. apart. When a fish seizes the bait the rubber stretches to the extent allowed by the line, and no more.

It is difficult to lay down any exact rules as to the length and consistence of the snooding. The bigger the lead, the longer the snooding should be, but in no case less than six yards; for the lead, which is large and conspicuous, must on no account be near the bait. Next the bait should be a yard and a half of the strongest salmon gut, either single, double, or treble, according to the size of the fish which are likely to be caught. There are some places where the largest probable pollack is not more than 5 lbs.; others, again, where fish of 10 lbs. or 12 lbs. are likely to be met with in the course of any day's fishing.

Between the gut and the lead either the ordinary hemp snooding may be used, or one of the Manchester snoods, or an eight-plait tanned silk, flax, or cotton line. Of course, the finer it is the better, consistent with the necessary

strength. For bass I would advise a still longer snooding, four fathoms or eight yards at least, for these fish are shyer than pollack. When they are feeding near the surface, quite light leads of only an ounce or two will suffice. This is not generally recognised by the professional fishermen, whom I have often seen sinking their lines by means of two- and three- pound leads, quite four or five fathoms down, when the bass were to be seen splashing about on the surface of the water after sand-eels.

There are not many pollack railing grounds over which large yachts can be safely sailed, and even in small vessels the helmsman must exercise great caution and care to prevent running aground. The tidal races in which bass are so frequently found are particularly nasty places for yachts. A responsible man should be at the helm not only by reason of the danger, but also because sport depends very much on the way the yacht is handled. As a general rule, few large pollack will be caught unless the line can be kept over submerged rocks. When bass are about and feeding just below the surface, very great skill is required to place the baits among the fish without letting the yacht pass through the shoals. In fact, harling (see p. 240) under sail should be attempted.

I had a day's bass fishing, which might have been a record one, altogether spoilt by the clumsy and thoughtless behaviour of some people in a small cutter, who worked about all over the ground, sailing the yacht right through the shoals, and frightening every fish to the bottom. They would have done much better to have anchored and fished with drift lines in the manner described in the previous chapter.

This is all, I think, that need be said here concerning whiffing, and fishing near the bottom, it being understood that this chapter should be read in connection with the detailed information given in other chapters in the book, particularly the previous one and that on Baits.

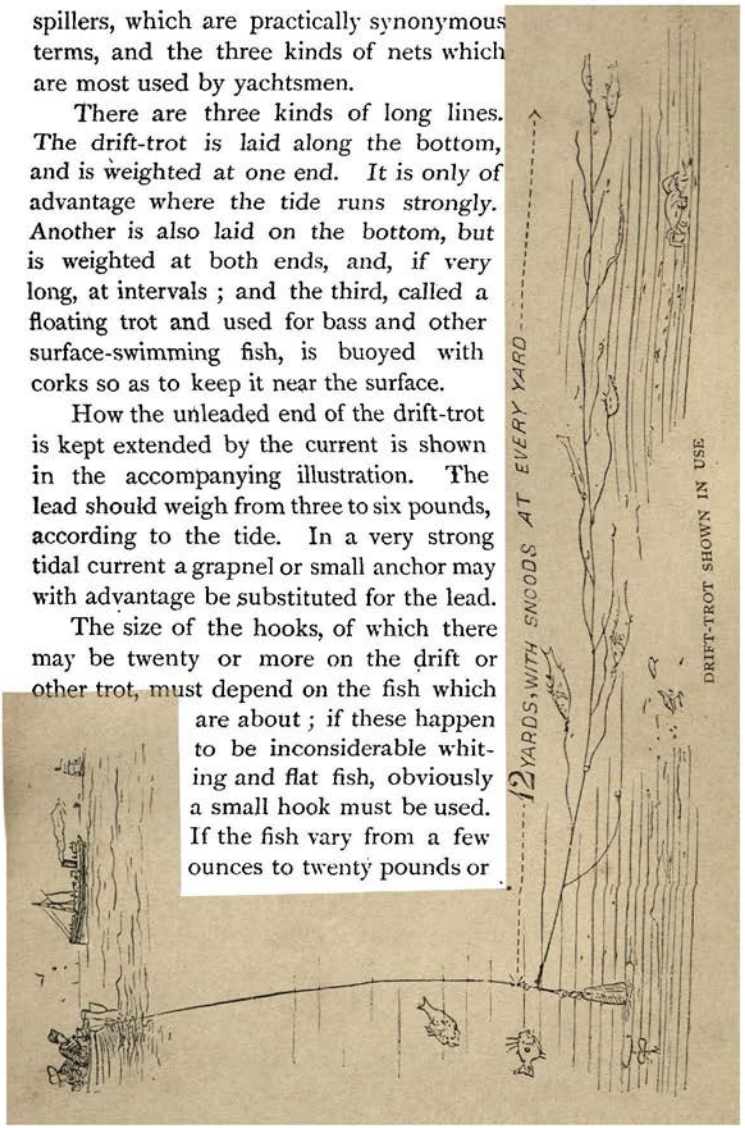
In the interest of the larder rather than of sport, a few remarks may find place here on trots, long lines, bulters, or

spillers, which are practically synonymous terms, and the three kinds of nets which are most used by yachtsmen.

There are three kinds of long lines. The drift-trot is laid along the bottom, and is weighted at one end. It is only of advantage where the tide runs strongly. Another is also laid on the bottom, but is weighted at both ends, and, if very long, at intervals ; and the third, called a floating trot and used for bass and other surface-swimming fish, is buoyed with corks so as to keep it near the surface.

How the unleaded end of the drift-trot is kept extended by the current is shown in the accompanying illustration. The lead should weigh from three to six pounds, according to the tide. In a very strong tidal current a grapnel or small anchor may with advantage be substituted for the lead.

The size of the hooks, of which there may be twenty or more on the drift or other trot, must depend on the fish which are about ; if these happen to be inconsiderable whiting and flat fish, obviously a small hook must be used. If the fish vary from a few ounces to twenty pounds or




DRIFT-TROT SHOWN IN USE

so, then larger hooks are necessary. A capital plan is to use hooks of two sizes: large ones with herring, mackerel, squid, pilchard, or other bait, for big-mouthed fish; and smaller ones, baited with lugworms or mussels, for flat and other small-mouthed fish.

It is a good plan, indeed almost necessary, to have a very large swivel between the lead and the portion of line bearing the hooks. Such a one, for instance, as that illustrated in connection with the ocean tackle in Chapter IX. The more expensive lines, made for amateurs, are fitted with a swivel on each snooding. If a trot is laid near rocks, and large congers are likely to visit the hooks, it is most certainly advisable to have a heavy weight at both ends, and to have a swivel on each snood. The trot then becomes a paradoxical piece of tackle—a short long-line. Indeed, long lines are frequently called trots, and, as I have said above, also bulters and spillers, the last name being a Devonshire term.

The main line before being used should be wetted and stretched, or, better still, towed after a boat for some hours to get all the kink out of it. The snoods should be placed so far apart that the hooks will not and cannot possibly foul one another. If snoods of four feet are used they should be placed at least nine feet distant. For conger professional fishermen do not as a rule use swivels on their long lines, but these little refinements are, as I have said, most desirable.

Amazing are the lengths of line carried by the professional fishermen who visit the North Sea and the fisheries of Iceland and Faröe. Fully equipped boats carry about two hundred and fifty lines, each forty fathoms in length, and each line bearing from twenty to twenty-six hooks. These lines, when being laid, are joined together into one immense line several miles long, bearing 5,000 hooks or thereabouts. Of course, the expense of adding swivels to each snood would be very considerable. The amateur, who does not fish for the market, may well be content with fifty hooks at the outside, and it

will save him a great deal of trouble if he has a phosphor-bronze or brass swivel fixed in each snood.

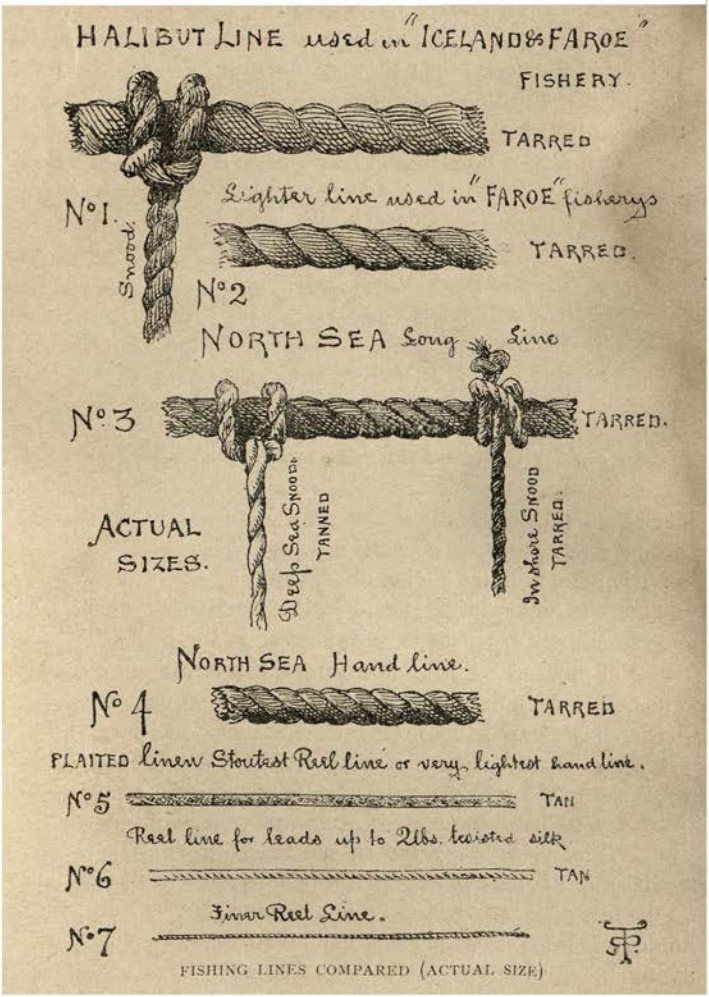
In the illustration is given the actual sizes of the principal lines used by professional and amateur sea fishermen. The comparison between the Faröe halibut line and the little twisted silk reel line is remarkable. Forty fathoms of the halibut line weighs about 5 lbs., and the lightest long line used for North Sea inshore fishing weighs 3 lbs. per forty fathoms. This length is called a half-piece, two lengths knitted together a piece, six pieces constituting a dozen lines. In from twenty-five to thirty-five fathoms of water a boat can work about twenty-five dozen lines each day, but on the Faröe bank, in from 100 to 120 fathoms, not more than fifteen or sixteen dozen lines a day can be satisfactorily attended to. The heavy halibut lines are not raised by hand, but by patent haulers which are fixed on the rail and are worked by a small winch.

As a part of the long-line gear each codman carries ten small and two larger (captain) buoys. The anchors which hold the line weigh about 10 lbs., and there is one to each buoy. The North Sea cod baits are whelks, lampreys, and squid. At Faröe and Iceland herrings and sometimes young coalfish are used for the long lines, and whelks on the hand lines. Herrings and sillocks (coalfish) are the principal baits used in the Faröe fishery for halibut.

While on this subject I am tempted to say a word concerning the North Sea fishermen, of their perils, hardships and bravery. To do so would be rather beyond the scope of this work, so I will only say here that those who sympathise with these fine fellows cannot give expression to their feeling in a more practical way than by subscribing to the Mission to North Sea Fishermen. The Mission not only attends to the spiritual wants of the men, but gives them medical attendance and performs many friendly offices for them.

Whelks are recommended among the best baits for long lines because of their toughness and the difficulty with which they are removed from the hook by crabs, cuttle-fish, and small fry.

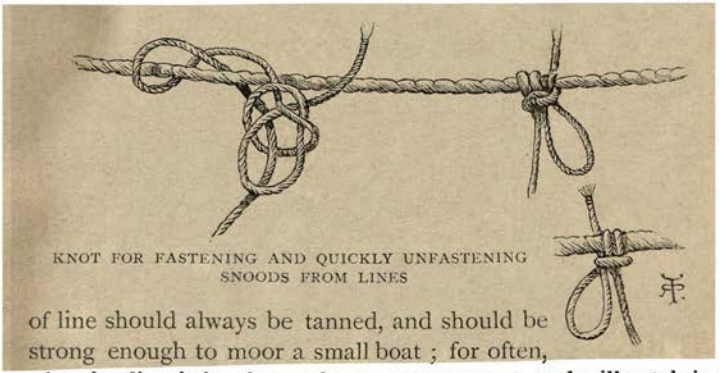
There is a particular knot for fastening snoods to a long line which I learnt from an old Thames poacher who had used it for his eel lines. An amateur is not very handy at unhooking




FISHING LINES COMPARED (ACTUAL SIZE)

fish, and as when taking in a line in a breeze it is often necessary to free the hooks from the fish as fast as the line is pulled in, I recommend this knot to those clumsy of hand. By merely pulling the short end of the snood the knot falls to pieces, and the fish, hook in mouth, can be instantly dropped in the bottom of the boat. The hook can be extracted at leisure, and the snoods, which on our amateur lines are not very numerous, are soon retied on to the main line.

Trots or long lines should be coiled in a shallow basket, on the edge of which the hooks can be caught. The main length

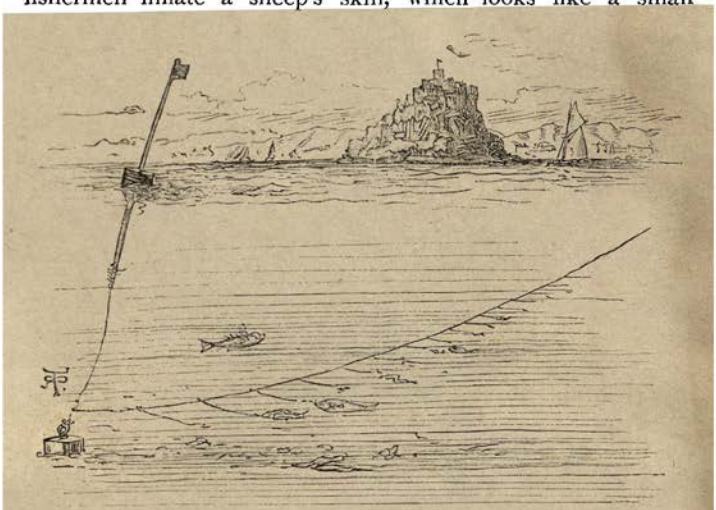


KNOT FOR FASTENING AND QUICKLY UNFASTENING SNOODS FROM LINES

of line should always be tanned, and should be strong enough to moor a small boat ; for often, when hauling it in, the anchor or stone at one end will catch in the bottom, and the boat is held by it. Professional fishermen are exceedingly expert both in laying and taking in these lines, and will pay out miles of line from a basket without a hitch. The amateur, on the other hand, is likely to become involved in the most fearful and wonderful entanglements ; but a little practice will soon make him fairly proficient at the business.

With a line bearing some twenty hooks or so, it is only necessary to have a weight at each end—a stone, a piece of iron ballast, or a heavy leaden plummet with a ring, made specially for the purpose. A few pounds more or less weight on the line does not much matter, provided there is enough to hinder any large fish, such as a halibut of a hundred pounds, swimming off with it.

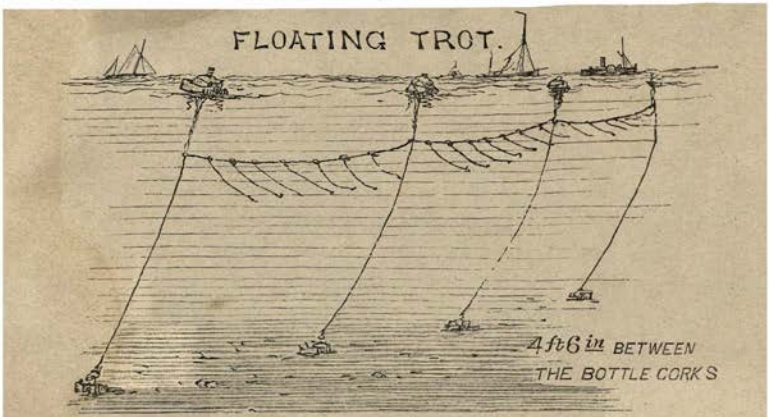
The efficient buoying of the line is very important. It is usual to fasten two or three semicircular pieces of cork into the buoy line at distances of a few fathoms; these help to support the line, at the surface end of which is a larger piece of cork, on which it would be wise to have your initials branded; if it is painted red so much the better. Professional fishermen sometimes have a little staff with a small flag on it stuck into the buoy. Such a one is shown in the illustration. Scotch fishermen inflate a sheep's skin, which looks like a small

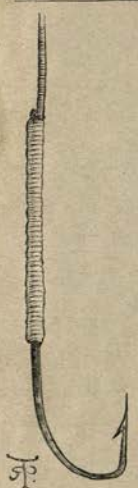


LONG LINE SET

black balloon on the water. They use the same buoys on their herring nets. The buoy line should be half as long again as the water is deep at flood tide. In a very strong tideway the buoy is sometimes submerged; but as the current eases it will appear again, and that, of course, is the time to take up the line.

Long lines are usually set across the tides, but the amateur will no doubt chiefly lay them along the coast, near rocks, in places frequented by bass and pollack, rather than in the offing.




In autumn and winter, when the cod come inshore, these fish may be caught on the long line set a few hundred yards below low-water mark.

The floating trot is used for catching fish near the surface. The illustration, prepared from a piece of gear made by Mr. Hearder, of Plymouth, renders a detailed description unnecessary. The horizontal line which bears the snoods is buoyed at short intervals, in addition to the larger buoys. Ordinary hemp snooding may be used for the hooks, or, what is better, there may be eighteen inches of horsehair and eighteen inches of twisted salmon gut, or single gut if the fish do not run very large. Some people place a small pipe lead on every snood just at the junction of the horsehair with the gut.

Live sand-eels, smelts, or very small dabs, flounders and plaice may be used for baiting this line. It is very desirable that the baits should be alive. Sometimes sea trout, and very occasionally salmon, are caught in this way. The ordinary long line may, of course, be baited with live sand-eels, and if this is done in an estuary in the autumn, large bass are likely to be taken.

It is with great reluctance that I venture any remarks which may lead to an increase of trawling; for the practice has long been doing great injury to the fisheries all round our coasts. Flat fish, and, in particular, soles and plaice, have become exceedingly scarce in many places. Unless trawling is absolutely prohibited in territorial waters, and the sale of immature flat fish is made an offence, irreparable harm will be done to a very important calling.

In this matter the sportsman and the poorer fishermen who obtain a living by setting long lines near the coast are on the same footing. Both of them suffer from the disastrous effects of not only the destruction of immature fish, but also of overfishing the shallow inshore grounds. The sea is no doubt a large place, but the portions of it which can be profitably fished are far more limited than the general public suppose.

For some reason or another a number of leading scientific men have for some time been rather fighting the battle of the trawler, and a cry of delight was raised by them when some one pointed out that the eggs of the principal food fishes float on the surface. 'Therefore,' said they, being all unpractical men, 'you see, after all, the trawlers do no harm; for they do not disturb the eggs.' These worthy but unpractical people altogether left out of consideration the fact that the eggs hatch, and in due course the resulting small fish retire to the bottom, where they are scraped up by the trawl together with stones, prickly sea urchins, conger eels, spiny thornbacks, oysters, sharp-edged shells of various kinds, and a vast quantity of débris; and that, after being towed along in the cod of a net in such dangerous company, these wretched little

creatures are brought out and emptied on deck, crushed, bruised, and injured almost beyond the power of identification.

It has been truly said that you can prove anything by means of statistics, and figures have been used to prove that our fisheries are not being injured by trawls. The proof is easily effected in the following manner: The number of boxes of fish caught in 1866, let us say, are not so many as the number of boxes of fish caught in 1895. 'You see,' says the trawler, 'we are catching more fish now, therefore our fisheries cannot be falling off.' But the weak point in this argument is that there are many more vessels with much more deadly engines of destruction engaged in the fishing industry now than there were in 1866, which is the real reason why more fish are brought to market. Moreover, our boats go farther afield to new fishing grounds. Even the trawlers and their learned friends admit that certain kinds of fish are scarcer than they used to be.

Are the fisheries deteriorating or not? The only practicable way to test the question is to compare the season's catches at the present day made by one or some other given number of boats, with the catches made by the same number of boats, working similar gear, at an earlier period of similar duration.

Perhaps the most useful work the Marine Biological Association ever did was in sending Mr. W. L. Holt to make investigations into this subject. In the report of the Association for October 1894 there is a paper by this gentleman on the destruction of immature fish in the North Sea. He states that the suggestions as to size limits embodied in the draft report of the parliamentary committee would, if carried into effect, leave the North Sea fishery *in statu quo*. So much for committees. With regard to one important flat fish, he says:

> That plaice are actually decreasing in the North Sea is a fact so generally recognised that it hardly needs illustration, but the present scarcity may not be so apparent from figures dealing with aggregate catches as it becomes when we examine the catches of individual boats. In examining the total figures it must be borne

in mind that the fishing power is enormous, our own large fleet being supplemented not only by foreigners, but by vessels hailing from other British ports, such as Scarborough, Shields, Aberdeen, Glasgow, and even Milford Haven.

The scarcity is most felt in the winter months, when, for whatever reason, the fish are very hard to catch. Thus in the last winter a smack failed to average two boxes of plaice in ten consecutive voyages along the neighbouring coast and off Flamborough Head, an area which has the reputation of being fairly productive for the season. The matter may be further illustrated by extracts from some observations of which my friend Mr. R. Douglas permits me to make use. On February 1, 1893, a steam trawler landed one plaice after ten days' fishing; on the 3rd another landed one box after eight days. On December 13, 1892, a steam trawler had three boxes for fourteen days, and on the next day two similar vessels had two each for eight days. These figures are, unfortunately, by no means so rare as to be exceptional.

Mr. Holt regards steam trawlers as most powerful engines of destruction, dangerously so, in fact, in the present state of the grounds. With regard to the advantage of closing the fishing grounds within the three miles' territorial limit of the shore, Mr. Holt gives an account of some trawling which was carried on by Professor McIntosh, on the *Garland* in the neighbourhood of Scarborough, with the object of obtaining soles to stock the Scotch Fishery Board's hatchery at Dunbar, &c.

The fishing grounds extend along the coast for a little more than ten miles, from Hayburn Wyke to Filey Brigg. Scarborough lies midway between these two points. The fishing grounds had been closed to trawlers for two years, and the local people believed that a considerable improvement had already manifested itself in the local line fishery. Soles seemed scarce, but those taken were fine fish, and it was a curious fact that the local fishermen were catching soles very easily on their lines, though the steam trawler took very few. This, I think, is often the case early in the season. Directly after spawning the fish are hungry, and take a bait more readily than at other times. While the *Garland* took only sixteen and a half pairs of soles in her trawl during the best night's fishing, twenty-five

and eighteen pairs were respectively taken on lines from two cobbles fishing on the same grounds in one night. Mr. Holt's conclusion is that the sole fishery had greatly revived since trawling was forbidden in those waters. He was told that the haddock fishery had not much benefited by the by-law, as the grounds lie further out than those on which the soles are chiefly caught, and that the trawlers still encroach a good deal on the territorial haddock ground.

It is often put forward on behalf of the trawlers that all undersized fish are returned to the water, being unsaleable. But this is one of those dreadfully unpractical remarks put forward by unpractical people, who quite overlook the injury done to the fish while in the trawl. Referring to the trawling experiment off Scarborough, Mr. Holt said 'a rather large quantity of undersized haddock, whiting, and gurnard were thereby destroyed, while the destruction of small plaice, though not great in actual numbers, was very considerable in regard to the local supply of this species.'

From investigations carried on by the Scotch Fishery Board, it seems that when the trawl is only down for from an hour to an hour and a half the percentage of dead fish is small; but that when the net is kept down for six hours or seven hours nearly all the more delicate fish, which will include the smallest of those caught, if not killed outright, are so injured that they die in the course of a few hours.

Soles are very scarce on the east coast of Scotland, and for the purpose of obtaining some for fishcultural purposes, the *Garland* made the journey already described to the Yorkshire coast. Of the soles caught many died. Some were placed in St. Andrews Bay, and others in a tidal pond, but of these a large number subsequently died. At the next attempt a Grimsby trawler caught a large number of soles off the coast of Holland and endeavoured to keep them alive in tubs; but out of several hundred only twelve were living when the English coast was sighted, and these perished before they could be landed.

Later out the Lancashire Sea Fisheries Committee agreed

to allow their steamer to trawl for soles off the Lancashire coast, for the use of the hatchery. The trawl was only dragged for short periods, with the result that the soles were vigorous when brought on deck, and there was no difficulty in preserving them alive and transporting them from Fleetwood to Dunbar by rail. After some difficulties in connection with the carriers had been overcome, forty-two out of forty-seven soles were brought alive and in good condition to Dunbar.

The largest number of small flat fish is probably caught in the very small meshed shrimp trawls which are worked in most of our larger estuaries. A report was made on this subject some time ago by the Marine Biological Association. It appears that the number of small flat fish taken in the course of a day by the shrimp trawlers is enormous. Of these, without much doubt, a large number are injured, and die after having been returned to the sea.

I have not the slightest wish to write anything which would injure a very important branch of the fishing trade, and it may be said, of course, that I am chiefly interested in preserving sea fish for the use of sportsmen. If, however, it is shown that overtrawling is being carried on, and that certain fisheries are being seriously injured, it should be obvious that any reasonable restrictions on trawling, which tend to promote the welfare of the fisheries, are really most of all in the interests of the trawlers.

Many people are blinded by statistics and remain quite ignorant of the fact that it is the vast quantities of fish brought from the more distant fisheries of Faröe and Iceland, which swell the takes and promote the illusion that our own fisheries are as fruitful as ever. The history of many a fishing ground reads somewhat as follows : a little trawling and a good deal of line fishing and average quantities of fish caught year by year. Then come more trawlers, and for several years more fish are caught than previously, owing, of course, to increased and improved methods of capture. But soon follows the inevitable falling-off in the productiveness of the fisheries, the men cry out, and there is a royal commission or a special committee. In

due course a blue book is published, sooner or later a general election occurs, new fishing grounds are discovered, and the matter is forgotten.

They seem to manage these things better in Denmark. The Government of that country, finding that the English and other foreign trawlers were beginning to injure the Faröe and Icelandic fisheries, have recently prohibited trawling in those waters. The mere possession of a trawl on those fishing grounds entails a heavy penalty.

What could be more forcible than the statement of the Select Committee of 1893? That committee reported, as regards the great fishing grounds in the North Sea, that the consensus of evidence of a number of persons interested in the fisheries, whether professionals or landsmen, whether smack-owners or fishermen, whether scientific experts or statisticians, 'showed that a serious diminution had occurred among the more valuable classes of flat fish, particularly soles and plaice—a diminution which was to be attributed to overfishing by trawlers in certain localities.'

Perhaps some people who read these remarks have never seen a beam trawl. The origin of this peculiar net is unknown; but for many years something of the kind has been used in the Mediterranean, dragged between two vessels. In England, Barking and Brixham both claim to be the first ports from which trawlers sailed. The trawl generally used is a triangular-shaped bag, the mouth of which is kept open by a beam of wood. The beam does not rest on the bottom, but is fixed along the upper edge of the mouth of the net and kept off the bottom by two irons. The ground rope to which the rest of the mouth of the net is fastened scrapes along the bottom, forming a big curve behind the beam. As the fish meet this ground rope many of them swim upwards, only to find the back of the net above them, and a certain number, not by any means all, work down to the narrow end of the net, which is called variously the cod, purse, or bunt. The top of the net is called its back, and the portion which scrapes the ground its belly.

THE BEAM TRAWL

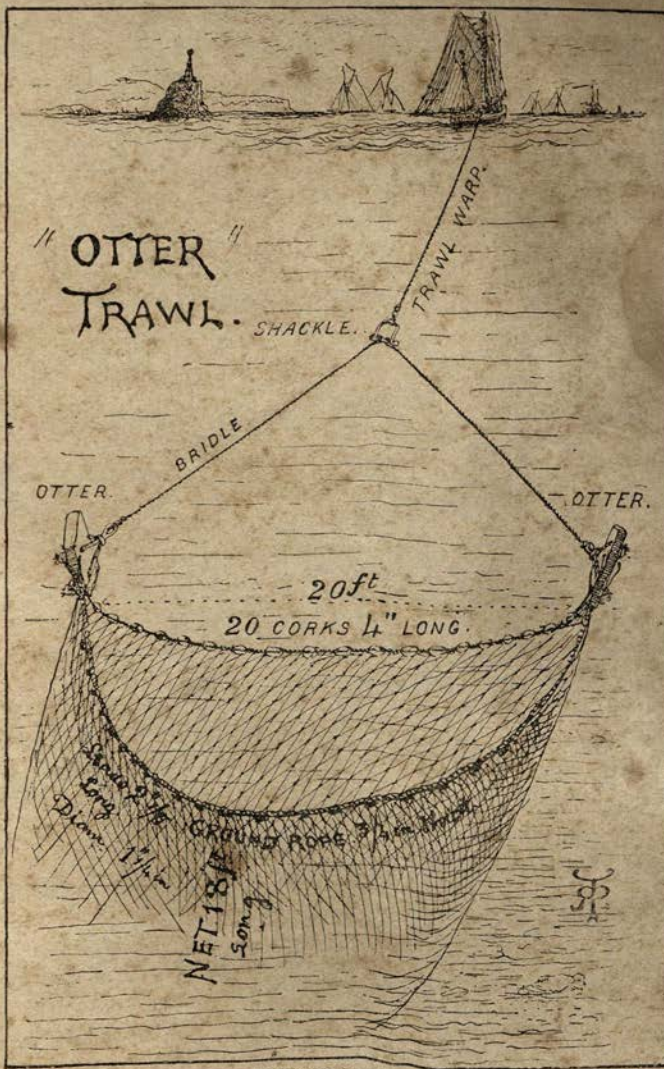
To preserve the belly from being worn away on the bottom, several layers of old netting are often placed under it.

The trawl travels very slowly, and doubtless many fish after entering turn their tail towards the purse and depart hastily. If the net were simply a bag most fish would have little difficulty on reaching the end of the net in turning and swimming out again if they were so disposed. To prevent this, what are called pockets are made in the net. This will be understood very clearly from the illustration on the preceding page.

The belly and back of the net are laced together along the lines *a a*, *b b*; and these parts with the back form an arrangement which carries out exactly the same principle as that on which the crab pot or lobster pot, and many kinds of fish-traps, are made. The cod, or extreme end of the bag, into which most of the fish find their way, is about one-seventh of the whole length of the apparatus. The end of the cod can be opened by undoing the cod line, and its contents, together with the fish in the pockets, emptied out. It is a curious fact that soles are more often found in the pockets than at the end of the cod.

The following are the names of the different parts of the trawl: 1, the *beam*; 2, the *head irons*; 3, the *ground rope*; 4 and 5, the *pockets*; 6, the *cod*, *purse*, or *bunt*. Sailors often prefer an old rope for use as ground-rope, so that if it catches in any rock, old anchor, or wreckage, it breaks; though the net may be torn, the whole apparatus, which is very costly, is not lost.

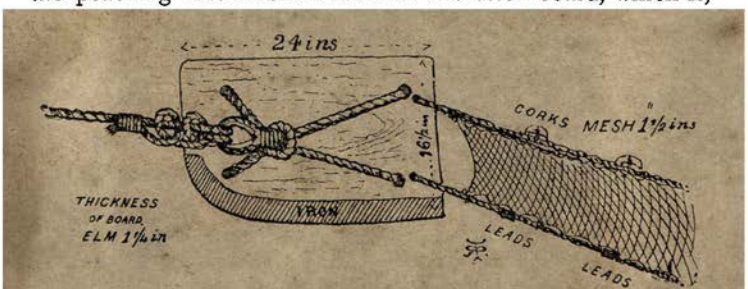
The edge of the back which is fastened to the beam is called the *square* of the net; while the portion attached to the ground rope is cut away to form a deep curve, and the centre of this curve is called the *bosom*. The centre of the beam is distant from the centre of the bosom about as many feet as the beam is long. It is obviously desirable that the beam and back of the net should overhang for some distance before the fish are disturbed by the ground rope. The two ropes which lead from the eyes on the irons to the big towing rope are the




THE OTTER TRAWL.

*bridle* of the trawl; while the big rope itself is called the *trawl warp*.

A clever apparatus, and one much more suitable for yacht-owners, is that known as the otter trawl, which, as will be seen from the illustration, has no beam. The mouth of the trawl in this case is kept open by means of two upright pieces of board, which are acted upon by the water in exactly the same way that the wind acts upon a kite and sends it up into the air. This will require no explanation to those who are familiar with the poaching instrument known as the otter board, which is,




THE OTTER BOARD (FITTED)

unfortunately, used on so many lakes in Scotland, Ireland, and Norway.

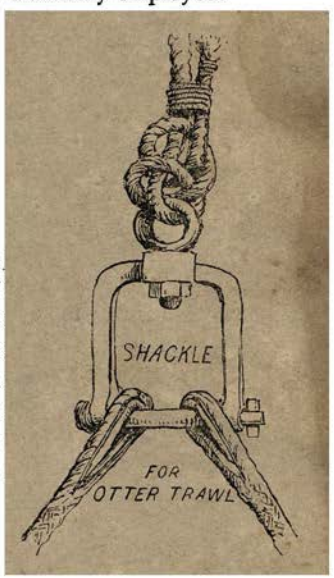
I have sometimes seen it stated that the otter trawl catches more fish than the beam trawl, and instances of this have been quoted. Mr. Hearder claims to be the originator of this net; but in Holdsworth's 'Deep Sea Fishing' a Mr. Musgrave is described as the inventor.

The otter trawl has the disadvantage of not holding the ground well when there is a sea on; but this drawback can be surmounted to some extent by heavily weighting the otter boards and by paying out a longer warp. The back of the net, instead of being supported by a beam, is floated by means of a number of corks; and as it then takes a considerable curve, the fish which are under the back of the net are not so fully covered as they are in a beam trawl. This net is more suitable

SCRAPING FOR SAND-EELS BY MOONLIGHT

for flat fish than for round fish, which are inclined to swim upwards.

A yacht of ten tons could carry an otter trawl measuring about forty-two feet on the ground rope, and costing about 12*l.* without the warp. A very long bridle ending with a shackle is required with this trawl. To avoid catching undersized fish, I think yachtsmen might set the example of having these nets made with a larger mesh than that ordinarily employed.




I must confess I shared the opinion, common among fishermen, that the size of the mesh, within reasonable limits, had no influence on the size of the fish captured, owing to the meshes being drawn close together by the strain on the net while fishing. But some recent experiments carried on by the directions of the Scotch Fishery Board have disillusioned me. They have proved beyond question that a comparatively small difference in the size of the mesh makes a very appreciable difference in the size of the fish captured.

The experiments were performed in the most thorough manner. A beam trawl of twenty-five feet was used, the cod of which had a mesh of one and a half inch from knot to knot. Surrounding the cod was a second net of small mesh measuring only half an inch from knot to knot. Thus, whatever escaped through the meshes of the trawl net would be caught in the outside surrounding net. The first trial was made with the ordinary cod mesh of one and a half inch from knot to knot, and it was found that not less than 74 per cent. of common dabs passed through the cod into the surrounding

net. But it was very different with plaice: only 2·4 per cent. out of 2,772 captured escaped from the trawl. From this it is evident that in the ordinary trawl nets used by professional fishermen the great majority of small dabs escape, while most of the plaice, large and small, are retained. About twice as many codlings passed through the trawl net as were caught. About the same number of haddocks passed through as were caught; and while 450 whiting were found in the cod, 8,000 were found in the outer net. The fish that escaped were, of course, small ones. The proportion between fish caught and fish passing through the meshes of the net would naturally depend on the grounds trawled over—that is to say, whether those grounds were mainly stocked with small fish or large ones.

Then followed an experiment made with a special cod-end having meshes of single twine of the same size as before; after which came a trial of the trawl fitted with a cod-end having meshes of two inches from knot to knot, and, as in all cases, enclosed within a small meshed net. Six hauls were made with this net; the cod or purse retaining in all 546 fish, while 2,426 passed through into the outer net. But here again the great majority of plaice were retained in the cod, it being the dabs, codling, and whiting, and a few hundred herrings, which went through into the outer net. One hundred and seventy-two plaice were caught, of which only three were in the surrounding net. Taking the fish as a whole, 18·3 per cent. were retained, while 81·6 per cent. passed through the two-inch mesh.

The next experiment was with a cod-end having a two and a half inch mesh from knot to knot; when it was found that 14·8 per cent. of the fish were caught in the cod-end, while 85·1 passed through into the net outside. Most of the plaice remained in the trawl, only four out of eighty-six escaping into the outer net.

The fifth experiment was with a cod-end having meshes of three inches from knot to knot; when the trawl contained 6·2 per cent. of fish, and the outer net 93·7 per cent.

The total results may be summed up as follows: that an increased number of fish passed through the trawl-end as the meshes increased; the percentage rising from 66·3 with a one and a half inch mesh to 93·7 with a three-inch mesh; but that, as the meshes increased, the proportion of round fish which escaped increased to a greater extent than the proportion of flat fish. This appears to explain the curious fact that where a great deal of trawling has been carried on, more injury has been done to flat fish than to round fish.

From these experiments we should expect to find the trawlers do greater injury to plaice than to any other variety of fish, and that unquestionably is the case if we leave soles out of consideration. For out of 3,348 plaice of various sizes caught in all the experiments, only 74, or a little over 2 per cent., escaped through the meshes of the trawl. The broad results of the experiments are that no regulation of mesh practicable for fishing purposes would save from capture anything like an appreciable proportion of the undersized and immature specimens of plaice (probably soles also) which enter the net. But, with regard to many other kinds of fish, the increase in the size of the mesh would appear to be an advantage to the fishing without any disadvantage to the fisherman. I therefore repeat my suggestion that yachtsmen should set the fishermen the example of using cod-ends to their trawls made with at least a three-inch mesh from knot to knot.

The otter trawl is best let down over the stern of the yacht, which should be sailed in about the same direction as the tide. The sides of the bridle should be paid out over each quarter, and the otter boards will quickly expand the mouth of the net. It is necessary to sail faster than the tidal current, and an otter trawl in particular should not be worked across the tide. It requires far more skill to work than a beam trawl.

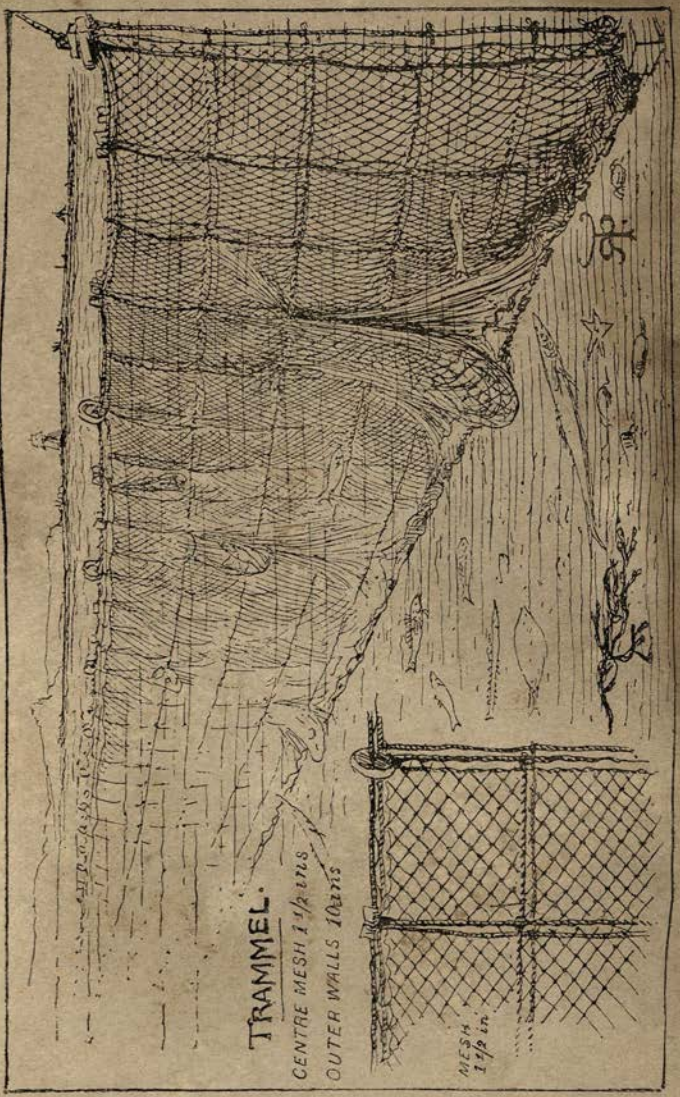
Fish, as a rule, lie head to the current, even those which burrow in the sand, such as flat fish, and it is better for the trawl to come on to their noses than on to their tails. If their tails were touched first, many of them would probably swim off in

the opposite direction from the trawl; but on meeting the ground rope they swim up, and the ground rope passes under them.

Professional fishermen often cause their trawls to steer the vessel by making fast the warp to such part of the hull that the pull of the warp nullifies the action of the wind. In a strong wind or bad weather, when the vessel is pitching or travelling too fast, it may be found necessary to place extra weights on the end of the otter boards. Using galvanised iron chain as part of the bridle has the same effect as a chain cable has on an anchor, tending to keep down the warp and make the pull on the boards rather towards the horizontal than the perpendicular. It has been recommended to make fast the warp to the bows of the yacht, bringing the warp down to the stern or other part as may be desired, so that should the trawl catch in anything the warp may be cast off the stern, when the yacht would be at once brought up head to wind. I should think this was a rather dangerous proceeding in bad weather.

Trawling is not often successful during the day in bright weather when the water is fairly calm and clear. At night most fish will be caught, or during the day when the water has been rendered thick by recent storm, or floods coming down the estuary of some river.

The trammel is another net carried by many yachtsmen. It consists of three walls of nets joined to the same head rope and ground rope. The central wall is the deepest and of small mesh —about one and a quarter inch from knot to knot. The two outer walls are of large mesh, twelve inches from knot to knot. The net is about six to eight feet high, and the lower edge of it is weighted to rest on the bottom, the upper edge being floated by means of corks. The inner net of small mesh, which must be made of some fine soft material, is quite double the depth of the outside nets. When fish swim against this apparatus they pass through the big mesh on one side and bring the fine meshed portion through one of the large meshes on the other side, thus making a sort of bag for themselves in which they remain. This will be made clear from the illustration.


TRAMMEL.
CENTRE MESH 1½ ins.
OUTER WALLS 10 ins.
MESH 1½ in.

A trammel of forty fathoms is the largest size required for all ordinary purposes. One of that size costs about 9*l.* It should be set in a line with the tide, and not across it, and is most deadly about dusk. It is usual to set trammels about six or seven o'clock, take them up at nightfall, remove the fish, reset, and leave them till early morning. If they are left too long any fish which are caught are likely to be eaten by cuttle-fish, crabs, &c. These nets are particularly useful for red mullet.

In waters which are not very prolific I have seen fishermen set a trammel net, and row round beating the water with oars. This makes the fish dart about and drives some of them into the net.

Drift and seine nets hardly require lengthy consideration here. The former consist of single walls of nets the under rope of which is leaded, while the head rope is sufficiently buoyed to float on the surface. These nets, which are joined together, making often a length of several miles, drift with the tide, and the shoals of herring, mackerel, or sprats, as the case may be, swim against them in the darkness. The fish mesh themselves, that is to say, they push their heads through a mesh beyond the gills and are unable to withdraw them.

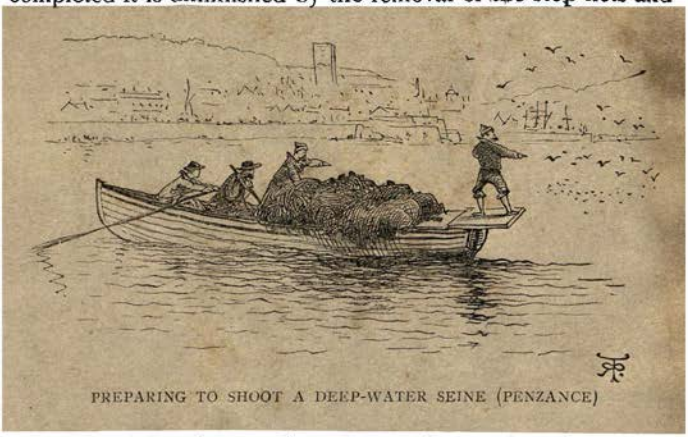
The seine or sean is probably the oldest form of net used, and, it has been suggested, was introduced into Cornwall by the Phœnicians when trading with the West-country folk in the days before Moses existed. There are, broadly speaking, three descriptions of seine nets: (1) the common or deep-water seine, (2) the tuck seine, and (3) the ground seine, foot seine, or scringe.

Every seine consists of a wall of netting the centre portion of which is called the *bunt*, and is considerably deeper than at the sides, which are termed *sleeves* or *wings*. Like the drift nets, this wall of netting is buoyed along the upper edge and weighted beneath so that it retains a vertical position in the water. As in the case of the common seine it does not reach to the bottom, it is only of service in deep water in capturing surface-swimming fish, and a large number of pilchards are

HAULING THE TRAMMEL

caught off the coasts of Cornwall by its assistance, where there is no suitable shore up which the net can be dragged.

The seine is shot in a circle from the stern of the boat, which rows round the spot where the shoal of fish is believed to be. Sometimes two boats start together, going round the circumference of the circle in opposite directions, each shooting a net, and, on meeting, bringing the ends together. Three nets can be used, one acting as a stop net. If the circle to be enclosed is very large, two or even more stop nets which have been joined together are required. When the circle is completed it is diminished by the removal of the stop nets and



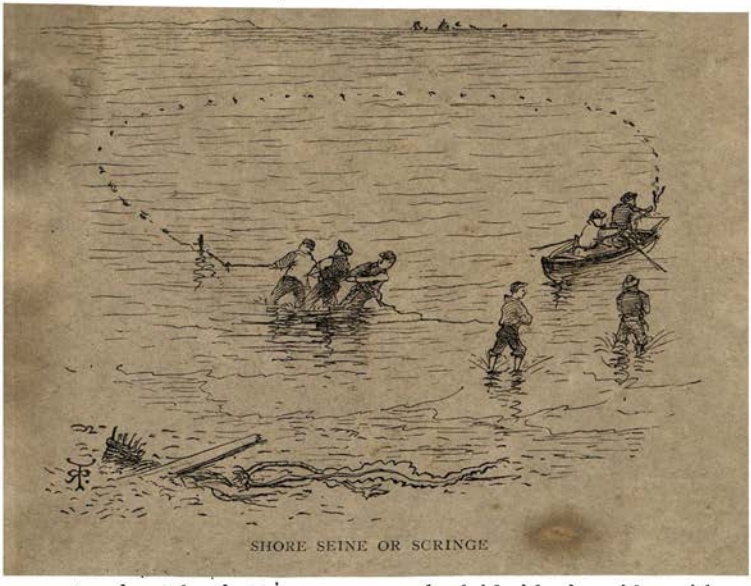
PREPARING TO SHOOT A DEEP-WATER SEINE (PENZANCE)

the ends of the seines are brought together. The seine is then slowly worked towards the shore if possible.

The pilchards, &c. are removed by using what is called a tuck seine inside the larger net. This net is ten fathoms deep, and as its ends are brought together the lower portions are raised under the fish, forcing them to come near the surface, when they can be scooped out in baskets. Sometimes on the Cornish coast so large a quantity of pilchards are enclosed that they cannot all be removed from the nets in one day.

The ground seine, shore seine, or scringe is not quite so deep as the common seine. It is usually shot from a boat

starting from the shore, and always drawn up on land. It is not of great service except in those shallow waters where the foot rope touches the bottom. Everything which is enclosed and cannot pass through the meshes is caught, though maybe the foot rope misses a few flat fish lying hidden in the sand. The net, after being shot and both ends brought on shore, should be dragged in gradually and evenly from both sides, the men who are working it approaching one another until they



SHORE SEINE OR SCRINGE

meet, when the bottom ropes can be laid side by side, with the result that the bunt or centre of the net comes under the fish which have been encircled by it. Of course, with surface-swimming fish the scringe or ground seine need not touch the bottom. Many visitors to the seaside have doubtless seen these nets used for encircling mackerel during the summer months.

It is a curious fact that in the early part of the century the use of the seine net for encircling shoals of herrings was so much opposed in Scotland by the drift-net fishermen that

THE GROUND SEINE OR SCRINGE

Parliament actually prohibited its employment. The fact seems to have been not that the herring fisheries were in any way injured by the nets, or *seine trawls*, as they were called, but that the enormous takes of herrings which were sometimes made by their means glutted the market from time to time, and reduced fish to a price which was anything but pleasant to the drift-net fishermen whose takes were more regular. A royal commission sat and inquired, and for once in a while something came of it, for the exceedingly stupid legislation on the subject was repealed.

Seine nets for sand-eels are illustrated on p. 109.

Yacht-owners very frequently, and with great wisdom, carry lobster and prawn pots. These also are dealt with in a separate chapter.

I think yachtsmen who do not fish for the market might very well limit their use of nets to capturing just so much food as they require for the table or for their friends or for scientific purposes. By exclusive or indiscriminate netting they run the risk of injuring not only the livelihood of the poorer classes of fishermen who own small open boats and set their lines near the shore, but also the comparatively new branch of angling which unquestionably will, in the course of time, take thousands from our overstocked rivers and lakes, and provide them with inexpensive, healthy and profitable amusement off our coasts.

I have to acknowledge the loan by Mr. Hearder, of Plymouth, of trawl and trammel nets, floating trot, &c., from which the illustrations in this chapter were made.

*Note.*—Only a few days before the publication of this book, and therefore too late for more than this short notice, there appears a most important report on 'Trawling in the North Sea,' with special reference to the destruction of immature fish, by E. W. L. Holt. It is issued as a special number of the 'Journal' of the Marine Biological Association, and I earnestly commend it to the attention of all those interested in the preservation of sea fish.

## CHAPTER IX

### THE OCEAN FISHING ROD

A GOOD ship is steadily ploughing her way through that maritime oven known as the Red Sea. Under the shade of the awning passengers in varying degrees of exhaustion are lying in deck chairs. There is a slight breeze, but it follows the vessel and is not felt. A few white clouds now and again pass across and obscure the sun. It is too hot for deck quoits; too hot for that wearying constitutional; too hot for talking, or thinking even; almost too hot for flirtation. Suddenly there is the jangle of a bell, and all these apparently inanimate forms come to life, dart to the side of the ship and stand gazing at the wake of the vessel; that is, all except the poor fellow invalided by Indian fevers and agues, who remains lying listlessly in his deck chair.

Standing out from the ship's side is a huge bamboo pole, forty feet in length, bending double under the weight of a great fish which is splashing and twisting on the surface some sixty yards astern. The captain, who has been dozing in his bunk, is called, and, after the manner of sailors, wakes up in a fraction of a second and turns out. He and the first mate run to a light line fastened to the taffrail, the other end of which is attached to the stout fishing line a few yards below the point of the rod. The rod itself is not touched, for it would require a very Goliath of a man to wield it; but by clever gearing it rises and falls, playing by its own weight the coryphene which, firmly held by two stout double hooks, is churning the tepid sea. The line is hauled inboard, and, without easing the

engines or in the slightest degree slackening speed, the sea monster is brought steadily and carefully alongside. One of the crew stands by, cord in hand. This is passed round the line, fashioned at the end into a running bowline knot, and slipped down on to the fish. A sharp jerk pulls it tight, the noosed creature presently swings in mid air, and is hauled up on deck among the plaudits of the passengers.

A frail, effeminate-looking youngster begins to quote Byron to the black-eyed girl at his side, telling in verse of the changing colours of the dying coryphene, which the licensed poet miscalls dolphin. But this is the third fish and quotation of the kind during the voyage, and he is listened to a trifle impatiently. The fish is carried off, the line is released; the big double hook, bearing a poor imitation of a flying fish made out of white bunting, is again skimming over the waves far astern, and the passengers relapse into their former state of inanimation.

It is fine sport this, catching tunnies, barracuda, dolphins, bonito, coryphenes, seerfish, and other huge and sometimes ugly members of the fish tribe, maybe weighing 100 lbs. and over. The attempt is often made, but less often successful. Even those who thoroughly know the game fail for days together to bring a fish on board. A big liner is not a fishing boat, and when time is money the owners would be ill pleased if their commanders were to slow the engines when fish were seen playing around the vessel, or stop when some extra huge creature had been hooked. The thing, then, was to devise a tackle which would stand the enormous strain when an animal, weighing perhaps 150 lbs., seizes the bait which is being whizzed through the water at the rate of from nine to fifteen knots an hour. At lower speeds the tackle question is less difficult of solution.

The ever-restless Bay of Biscay is scoured by men known as tunny fishers, who may be seen sailing in quite small vessels with a long bamboo rod projecting on either side. The tackle, which would be perfectly useless on a large steamer, is so arranged that when a tunny takes the bait a little bell rings. The principle has been very cleverly adapted by Captain

E. H. Howell, R.N.R., for what I may term 'ocean fishing.' Possibly Captain Howell's description of his gear may not be intelligible to landsmen, but on board ship there should be many among the crew capable of rigging it up from the following directions, which are somewhat similar to those originally communicated by Captain Howell to the 'Field.' When once the idea is grasped that the pull of the fish lifts the rod or boom—the weight of which counterbalances the strain on the line—the description is not so difficult to understand, more particularly with the assistance of the very clear illustration.

First is required a rod or boom, forty to forty-five feet long, composed of spliced he-bamboo, about two inches in diameter at the outer end and about six inches in diameter inboard. (A thirty-foot pine boom would answer the purpose, except from a large passenger vessel, where the quantity of stuff thrown overboard is so great that without a long rod the hooks would be fouled every few minutes.) The boom is supported by two topping lifts, led through a double-tail block made fast to the rigging twenty feet above the rail (if the forty-foot boom is used). The inner topping lift is made fast to about the middle of the boom, just so far distant from the rail as the rail is distant from the double-tailed block.[1] The outer topping lift is made fast as near the end of the boom as possible, the foreguy being made fast just outside it. Sometimes it is necessary to have a double foreguy, corresponding to the topping lifts. The hauling ends of both topping lifts are made fast to the rail or to a pin in the rail. The heel of the boom rests on the rail, and is perfectly free, except that it is kept from running inboard by a heel rope rove through it and made fast to the rail.

Now comes the working of our ocean fishing rod. First we have to ascertain how far the boom is to project over the water. It should be projected until the strain on the topping lifts (ascertained by lashing a spring balance or 200-lb. weight

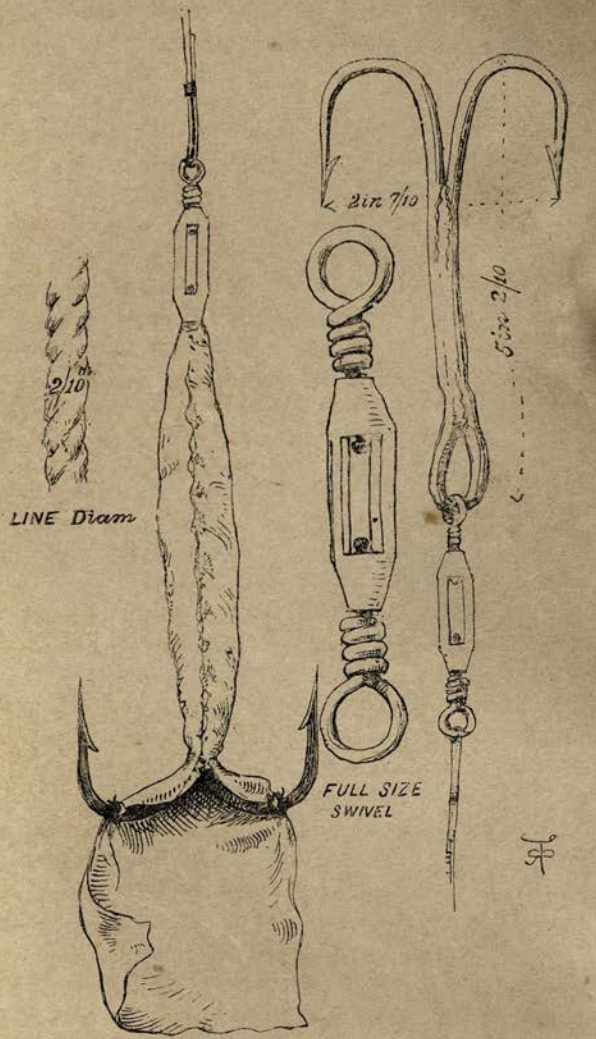
[1] This is important, as it enables the boom to be hauled out of the way right up and down the standing rigging when in port or in bad weather.

THE OCEAN FISHING ROD

to their hauling parts) is just 200 lbs. When a pull equal to this weight will lift the boom, the heel lashing should be made fast to the rail, and a mark put on the boom to show how to adjust it on any future occasion. A pine boom may be so heavy that it may be necessary to hang a 56-lb. weight at the thick end of it. Otherwise too much of the boom would have to be inboard to partly balance the projecting portion. The line, which is from forty-five to sixty fathoms long, according to the speed and sea, is rove through a block at the boom end, made fast between the topping lift and the fore guy, and close to both. When the line is paid out the length required, which may be marked on it, the inboard end is made fast to the hauling parts of the topping lift, about eight feet above the rail; so that when a fish strikes he can never pull more than 200-lb. weight without topping the boom up; and as the strain becomes less, so the boom goes back in its place again, thus playing the fish until the time comes for hauling him in.

Captain Howell always uses two hanks of stout log line, at the end of which there is a swivel; through this he reeves a galvanised wire trace about two fathoms long. The hook is double (made according to his own idea) on one shank six inches long, with a swivel attached to it. Upon the shank of this is the bait, which consists of white rag, bound round in the shape of a fish, the ends being allowed to form a tail about two inches long beyond the hooks, and in this is sometimes put a little red. Dolphin prefer white. In rough, sunny weather a strip of bright tin, half an inch wide, may be fastened to the back of the bait with advantage. The line is hauled into the ship's quarter by another small line made fast to the rail and hitched on to the fishing line.

It is easy to introduce a bell into this gear, which rings when the fish strikes. The bell is fixed on the fishing line at the spots shown in the illustration (p. 289). The line is slightly pulled together over the bell by means of a piece of




THE OCEAN BAIT (CAPT. HOWELL'S)

twine. Immediately a fish seizes the bait, the twine breaks, the line straightens with a jerk, and the bell rings.

I feel I must add a few words of explanation for the benefit of those to whom such words as 'topping lifts' and 'foreguys' are even less understandable than Greek. Obviously a huge pole cannot be projected over a vessel's side unless either the end which is on board is very heavily weighted, or the portion which is over the sea is supported by one or more ropes. If the pole is long and limber two supporting ropes are necessary. These come down from the rigging above and are made fast to the pole. On the rigging is a block (in landsman's language, pulley) through which the ends of these supporting ropes pass, being then brought down and made fast to the bulwarks. The pole is now supported, but requires another rope to keep it from swinging about. This is the foreguy, a single rope which is fastened to the pole and, at its other end, to the bulwarks. It will be seen that, by hauling on the ropes which support the pole, we can lower or raise our big rod. The fishing line passes through a block or pulley at the end of the pole, and its end is fastened to these ropes which support the pole. The result is that when a fish pulls on the line he actually lifts the pole. Now what weight ought our fish to lift—in other words, what strain ought to be placed on the fishing line? Captain Howell says, decide this by using a spring balance in the manner he has directed, or by fastening a weight of 200 lbs. on to the ends of the ropes by which the pole is sustained. He shifts the pole until he finds the 200-lb. weight will just raise up the rod and no more. The pole is then marked where it rests on the edge of the bulwark or rail, so that it can always be placed in the same position without further reference to spring balance or weight. It should be particularly noted that the fishing line is practically a continuation of the ropes which support the pole, so that the fish which is hooked simply hauls up the pole a little. The ropes which support the pole (boom) are the topping lifts, and, as I have explained, the rope which keeps the pole from swinging towards the stern is the foreguy.

I trust the foregoing explanation will suffice even for landsmen. I have made it perhaps unduly elaborate, finding that most people have much difficulty in understanding the construction of this clever invention.

I may here gratefully acknowledge much kind assistance given me with this part of the subject by Captain Howell, who thus expresses himself on ocean fishing :

> There is nothing expensive about the gear, and the whole thing is very simple when you understand how to rig it up. It does seem a pity that so many men should go on ploughing the ocean year after year under the impression that it is quite impossible to catch fish from a steamer under way. Apart from the sport itself, nothing can be more welcome to crew and passengers than fresh fish put on the table in hot weather. I know my own passengers have often been able to eat fresh fish when they could not look at meat in the tropics.

It has occurred to me that possibly an arrangement of india-rubber could be invented to bear the first jerk of the fish ; such a tackle, for instance, as that occasionally used in connection with the main sheet of a cutter yacht. But one object of the long boom, be it remembered, is to keep the bait and line away from the side of the ship. I believe this might be done by means of an otter board. The experiment is worthy a trial.

But what is generally available is a long spar, or, at any rate, a stout oar, and this latter has been used with some success by Lieutenant-Commander E. Hunter-Blair, who, like Captain Howell, is a very successful ocean fisherman, though his fish were probably caught while the vessel was going at a comparatively low rate of speed. Above nine knots Captain Howell's gear is certainly to be preferred. This gear was also described in the 'Field,' and in the following words :

> Lash the loom of a large ash oar to a boat's afterdavit, as high from the water and as far out from the ship's side as possible. Secure an ordinary 20-fathom lead line to the end of the blade of the oar, leaving sufficient of the line to form a foreguy to lead to the foremost davit ; continue the lead line with thirty to forty fathoms of window-sash cord ; next a snooding six fathoms long, best made of

three wires, unlayed from a piece of two-inch steel wire hawser. The wire must be secured to the hook without any sharp bend whatever.

Fish in foreign seas—in home waters they seem more timorous—are sometimes caught right under the vessel's counter, or ahead of the bow, by lines trailing from the jibboom.

The wire snooding for this purpose is as often as not made from one to seven or even eight strands unravelled from a galvanised, steel wire, twisted cable. A good hook for the purpose is not easily obtained, nothing special being usually made, so far as I know, which will stand the enormous strain. The hooks and bait kindly lent me by Captain Howell for the use of the artist (see p. 291) were made by Messrs. Farlow & Co. An ordinary shark hook, about one-third the usual size, will answer the purpose; but it must be of first-rate steel, and may be larger or smaller according to the size of the fish expected. The hooks should be long in the shank, and fitted with an eye and swivel.

Many ocean fishers favour some such 'fly' as that described by Captain Howell, the size being chosen according to the weather and fish. Another excellent bait is a strip of parchment six or seven inches long, cut half an inch wide, one end being tightly fastened to the head of the hook, about a quarter of its length projecting beyond the bend. Parchment is a capital substance for the purpose; very much akin to sole-skin, it gets soft and gelatinous after being used, and being tough will last for several days. Pork-skin is a favourite bait (see p. 82). It should be cut with a swallow tail.

Another essential is a very long handled gaff, for many a fish is lost in lifting it over the side. The gaff is for fish of medium size, and up to about sixty pounds. If much larger than this a single hook will tear away, unless it can be fixed just under the gills of the fish. Better is a very large double gaff, the hooks set rather close together. If the fish are very large, or if a gaff is wanting, they may be noosed after the fashion in

which the Red Sea coryphene was treated at the opening of the chapter. But it is almost impossible to use a running bowline when going at any speed, say over seven knots, for the fish is very apt to spin round, causing the noose to foul the fishing line. With a gaff the fish are secured more speedily and surely.

The following measurements for a double-hook gaff are useful: Shank twelve inches long, flattened out to lie closely against the bamboo pole to which it is whipped. Points of hook three and a half inches apart, and distant from the shank three inches.

The dolphin's favourite food seems to be the curious, so called, flying fish, and it cannot be doubted that the closer these eccentric creatures can be imitated, the more fish will be caught. No doubt any of the ordinary spinning baits would attract ocean fish, but they would have to be made enormously strong to bear the strain, particularly of albicore, which is the most sporting of ocean fishes.

Again and again beginners in this branch of sport get broken and are apt to attribute their loss of gear to sharks; but it is generally believed that sharks will not take a bait passing through the water at a high rate of speed. The question of speed is, of course, of some importance. Occasionally fish are caught when the vessel is only going three and a half miles an hour. Lieutenant Harston Eagles, of H.M.S. *Tyne*, had some excellent fishing under sail off the east coast of Africa while sailing at that rate, catching tunny up to 45 lbs., large barracuda, and a purple-finned sailor swordfish of 125 lbs.

But to revert to the question of speed. From eight to twelve knots appears to be the most useful pace for our purpose. Certainly, these large sea fish have no difficulty in seizing the bait even should the vessel be going faster, for every one who has made a voyage will remember how the dolphins, at any rate, may be seen playing round the vessel, keeping up with her without any apparent effort. Often large fish fifty or sixty yards away will come dashing after the fragment of white bunting and lay hold. Captain Howell's largest fish, an

albicore of 148 lbs., was caught while the vessel was steaming fourteen knots an hour through the Indian Ocean.

With regard to the weather, calms and storms are almost equally bad; though fish may be sometimes taken in half a gale. Best of all is dull, showery weather with a lumpy sea; but good sport is often enjoyed on fine days when there are a few clouds about and a nice breeze. The best season for ocean fishing depends in a great measure on the locality. Between Gibraltar and Port Said, where dolphins and bonito are fairly abundant, the fishing is indifferent during the winter months, and is at its best from the middle of July to the end of September, provided the weather is suitable; but in warmer latitudes there is plenty of fishing all through the winter. The Red Sea and Gulf of Aden are full of fish from October to June.

It is so unlikely that anybody would charter a vessel for the express purpose of carrying on this branch of sea fishing, that it seems hardly necessary to mention any particular fishing grounds. The sport is rather one of the incidental amusements of a voyage. Fish are found anywhere. Between Gibraltar and India or China, in the Pacific, off the western coast of North and South America, from San Francisco to Chili; and near La Plata Isle, off Jamaica, the fishing is particularly good. Sport has also been obtained on the east coast of Africa, and very large tunny are caught near the Cape de Verde Islands. In fact, in nearly all the warmer portions of the watery world, between 25° N. and 25° S., great surface-feeding fish are to be found.

Records of sport enjoyed by ocean sea-fishers are very interesting, and a few may be quoted to give a more or less accurate idea of the success attending the use of the methods described. One of the best baskets of fish ever made in this way consisted of fourteen dolphins weighing 186 lbs., which were caught north of Socotra by Brigade-Surgeon-Lieutenant-Colonel Smith. The same gentleman, when in a vessel four days off Colombo, was hauling in a fish which appeared to be seven feet long, when the hook broke. Lieutenant Harston

Eagles, whom I have already mentioned, hooked nineteen fish on a voyage from England to Bombay without bringing one on board; but on the homeward journey caught tunny, barracuda, and other fish, weighing 54 lbs., 33 lbs., 23 lbs., 18 lbs., 13 lbs., 11 lbs., and 10 lbs. respectively, giving an average of 23 lbs. On another voyage he did far better than this, catching sixty-six fish, which weighed 2,084 lbs., or an average of 31·5 lbs., the largest being a tunny of 150 lbs. Very often two out of three fish hooked were lost. Mr. G. G. Borrett, Surgeon R.N., who was fishing with Lieutenant-Commander E. Hunter-Blair, soon after crossing the equator in the Atlantic, lat. 7 N., long. 7 W., caught a tunny of 180 lbs., and an hour or two later another nearly as large. Off the Cape de Verde Islands he secured tunny of 100 lbs., and an albicore of 43 lbs. Among the many notable fish caught by Captain Howell was the large albicore already mentioned, and another of 110 lbs. He often secured two hundredweight of fish in a day. Most of his largest specimens were taken between Aden and Zanzibar.

Not the least charming feature of this ocean fishing is that the quarry are more or less edible. Dolphins are considered quite a luxury in the Mediterranean, fetch a high price at Gibraltar, and their weight in rupees at Bombay. The name is a popular one given to several species of *Delphinus*. The common dolphin is not unlike a porpoise, but has a much sharper snout. Byron wrote:

> Parting day
> Dies like the dolphin, whom each pang imbues
> With a new colour, as it gasps away,
> The last still loveliest, till—'tis gone—and all is grey.

But this creature of the changing colours, alluded to by the poetical youth on the East Indiaman, is not one of the mammalia at all, but the coryphene (not to be confounded with *coryphée*, whose colours are artificial, and unchangeable by the emotions), which is a true fish. On the edible question Captain Howell writes me: 'The bonito is little thought of by anyone as an

edible fish, though sailors seem to like them. Both dolphin and barracuda are excellent eating, especially the former. The dolphin, to my taste, is one of the most delicate-eating fish that swims. The seerfish has been described as being like a white salmon.'

Of TUNNIES there are two varieties, the short-finned (*Orcynus thynnus*), which is most common, and the long-finned tunny, or albicore (*Orcynus germo*). Old writers record, or invent, tunnies of enormous weight. Aristotle wrote of one weighing 1,200 lbs., and, according to Belonius, one was caught off Spain in 1665 which measured thirty-two feet in length, and was sixteen feet in girth. Sometimes tunnies are captured in the Cornish pilchard and mackerel drift nets, but there is no regular fishery for them that I am aware of on the British coasts. The Spanish tunny fisheries, on the other hand, are of great importance, and have been carried on for many years, the practice having been introduced, it is said, by the Phœnicians. As in the time of Ælian, watchmen in some lofty position on the coast give warning of the advent of the shoals, when the boats put to sea, and the fish are surrounded by nets. There are also a large number of tunnies caught in the Black Sea, as the shoals pass the Bosphorus. The Romans used to consider the fish caught off Spain and Sardinia superior as food to those brought from Constantinople.

These fish are very widely distributed. They have been caught off the Scotch coasts and also near Ireland. One 8 ft. 3 in. long, weighing about 300 lbs., was brought into Dublin in the year 1841. Pennant mentions one of 460 lbs. caught off Inverary in 1769. At the beginning of the century three were caught off Margate. In 1840 they are said to have been plentiful off the Cornish coast, and a shoal visited the Moray Firth in 1850, one which was caught measuring nine feet in length. Day states that off Sardinia tunnies frequently attain a weight of 1,000 lbs., and Cetti asserts that they run to 1,800 lbs.

ALBICORE, or LONG-FINNED TUNNY—so called because the

pectoral fin is one-third, or thereabouts, the length of its body —are found in the Bay of Biscay later in the year than the common tunny, which they resemble in their habits. Large numbers of them often follow vessels, and it has been suggested that they do this thinking to obtain some protection from their great enemy the swordfish.

One was caught some distance up the river Exe, having been left by the tide on the wrong side of some palings, but very few examples have been captured on the British coasts.

The BONITO (*Thynnus pelamys*) sometimes visits the British coasts, and has been taken in the Firth of Forth. Couch mentions one which was brought into Whitehaven in Cumberland, and a small specimen 20½ inches long became entangled in a trammel net at Plymouth. In form it very much resembles the short-finned tunny, but may be distinguished by having clearly-defined stripes beginning at the gill covers and running towards the tail. There is a variety (*Pelamys sarda*), termed the Plain Bonito by Yarrell, in which the stripes or bands are found on the back, and take an oblique direction. This also has been caught on the British coasts, and there is not much doubt that some of the very large mackerel which have been recorded by professional fishermen are small specimens of this fish. It is plentiful in the Mediterranean, the Black Sea, and the Atlantic Ocean.

There is also a bonito without stripes, known to naturalists as *Auxis rochei*. It is regularly fished for in the Mediterranean during the summer. In shape and the form of its fins it more closely resembles the common mackerel than either the tunny or striped bonito.

The FLYING FISH (*Exocœtus volitans*), the favourite food of the great ocean mackerels, is sometimes caught on a hook. In the 'Zoologist' a Mr. Smith described how, during a voyage from Peru to Callao, a variety of baits were employed in the capture of these pretty creatures, such as pieces of red bunting, artificial minnows, and small spoon baits; the most successful being a small gilt minnow and a large red fly. Mr. Smith relates that,

in following the minnow through the water, the fish would open their pectoral fins—the so-called wings – and poise themselves for a rush at the bait. Spreading the wings also had the effect of checking their progress, if their suspicions were aroused by a close inspection of the bait. When hooked they prove very game fish, taking out several yards of line in their first rush, and often making a flight in the air, line and all.

I suppose I need hardly say that flying fish do not fly in the ordinary sense of the word. When they shoot out of the water their large pectoral fins are not worked with the motion of a bird's wings, but seem rather to vibrate and act as parachutes, delaying their fall back into the sea. On dark nights flying fish appear to be unable to direct their course wisely, for they sometimes alight or tumble on the decks of vessels.

Captain Howell informs me that he used to catch a large number of flying fish between Aden and Ceylon by rigging out a net on the weather side of the ship, underneath the side lights. The net was about thirty feet in length, and by means of two supporting spars stood out from the side of the vessel three feet or so. It was about the same distance below the level of the deck, and formed a long, narrow, horizontal bag of netting, into which the fish fell.

In British waters flying fish are rare, but not unknown. Several have been seen on the coasts of Cornwall, Devon, and Ireland, and one was picked up on the beach at Helford, near Falmouth. Another was found on the quay at Plymouth.

There is a lesser flying fish known to naturalists as *Exocœtus evolans*. According to Pennant, a specimen was once captured in the river Towy ; but there is some doubt on the subject.

## CHAPTER X

### LOW-WATER SHELL FISH AND CONGER HUNTING, PRAWNING, AND SHRIMPING

WE may leave for a while fish possessing backbones, ribs, and other parts of great delight to osteologists, and turn our attention to those strange creatures which carry their skeletons on their back, changing them when they grow too small, dropping off a leg here or a claw there when it seemeth them good, growing another in due course, and generally behaving in an eccentric and altogether preposterous fashion. In short, as Mr. Micawber might have said in one of his joyous bursts of confidence, I refer to the lobster and the crab ; akin to which are the delicate prawns and homely shrimps.

The crab of annoying habits the sea angler will meet many a time and oft ; but now we will consider him in a different light—as a creature destined to afford sport and food for the human race, and not merely as an aggravating, bait-consuming nuisance.

A considerable volume might be written on the crabs of the world. Probably the most remarkable-looking member of the family is the King Crab, of Eastern seas. In general appearance he resembles a round, shallow, down-turned bowl with a spike sticking out from underneath it. The Malays are reported to use the King Crab's tail for pointing their arrows and spears, chiefly because the wound inflicted by an instrument so tipped is considerably more unpleasant than the clean cut made by a steel weapon. Place a little poison on the crab's tail, and the weapon is still more effectual. Tasmania, also,

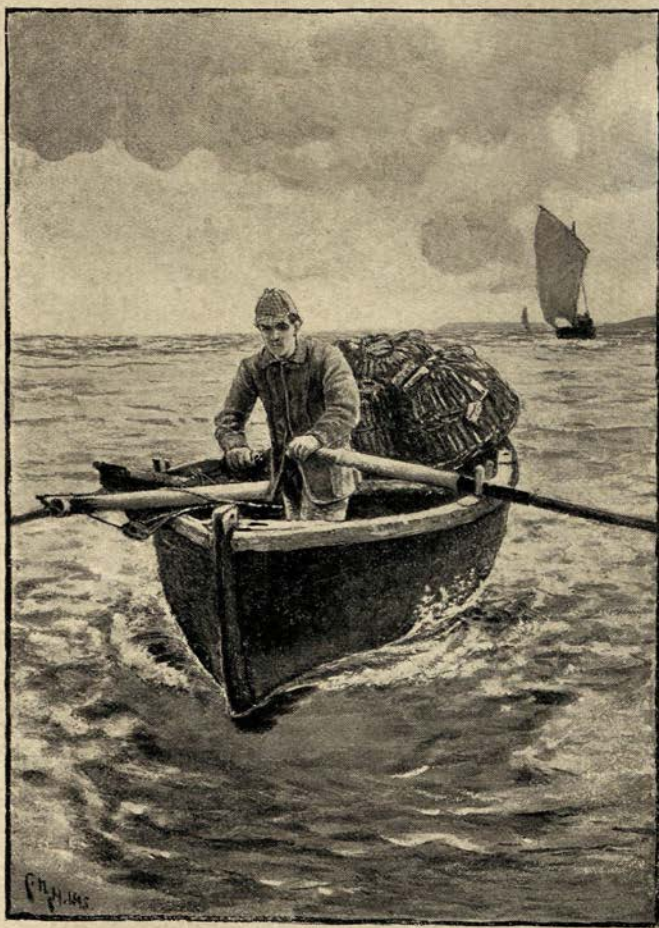
rejoices in some remarkable crabs, the claws of which are so large, travellers say, that they can take hold of the thigh of a man.

Some crabs are all body; others are all legs—to wit, the spider crab, which is sometimes captured on English coasts. Everyone, from the reader of boys' books to the student of Mr. Rider Haggard's romances, has heard of land crabs of various kinds, some of which will dispose of a corpse or a cocoanut with equal facility, and, though they live on shore, occasionally take a saltwater bath.

The Cocoanut Crab, having no rocks to lie under, makes a burrow for himself like a rabbit among the roots of huge tropical trees. He tears off the husk from the eyed end of the nut, and then hammers with one of his heavy claws at one of the eyes until it caves in. He then inserts a hind leg conveniently furnished with nippers through the hole and helps himself to the contents. Moreover, being a practical creature, he rends the cocoanut fibre and makes a pleasant couch with it at the end of one of his subterranean galleries. When not eating nuts he turns his attention to shell fish, and then is very often caught and eaten himself.

The Land Crabs of the West India Islands, on the other hand, prefer the uplands, only coming down to the sea coast in the spawning season. When they are on the march both negroes and white men feast grandly; on their way back again, though—so many of them as are left—they are unmolested, for they now appear spent, keltish sort of things with no good in them.

But enough of these foreigners; let us come to our own good, honest, dusky red fellows who live in submarine rocky strongholds all round our coasts, and while affording us dainty dishes and rare good sport on occasions, pay us out by poisoning us from time to time with ptomaïnes, the result maybe of a banquet on some cholera-stricken seaman. I have always had a distaste for the edible crab, as he is called, ever since I saw one feeding on a particularly loathsome mass of



'LET US COME TO OUR OWN GOOD, HONEST, DUSKY-RED FELLOWS'

decaying animal matter which had floated out of Tenby Harbour and moored itself among some rocks about a foot under water.

The quaint little Hermit Crab, common enough in English waters, is certainly one of the most singular members of the family. Something has already been said about him in the Bait chapter. Nature having conferred upon him no decent covering for the greater portion of his body, he slips the end of his unclothed tail into any convenient shell, generally choosing that of a deceased whelk. Many a time have I pulled up my bait and found a pair of tiny pincers hanging on to it, the rest of the creature, four short legs excepted, being contained within an otherwise untenanted whelk shell. Put him down on the floorboards of the boat and watch him for a minute or two. For a time nothing will happen ; then the claws and the four legs slowly come out of the shell and begin a slow progress across the boat. Touch him ever so lightly and he retreats into his shell-house with a sharp snap like the steel fastening of a lady's bag.

From a zoologist's point of view the crab is a superior animal to the lobster because he has no tail to speak of. For the same reason a man is a superior animal to a monkey. The crab, unlike a man, is born with a tail, but in course of time shortens it, and tucks it away under his body. The lobster, on the other hand, retains his tail at some length until supper time. While the crab walks sideways, the lobster swims backwards, and having projecting eyes which work on universal joints, he can see round the corner with the greatest facility.

Many years ago lobster culture was attempted with more or less success in France ; and many millions of lobster eggs have been hatched in Newfoundland, Canada, Scotland, and other places. So far as figures go Newfoundland takes the lead, having in one year recently hatched seventy-five per cent. out of 152,600,000 eggs. Our own feeble little attempt in the lobster pond at Brodick, of 600,000 in one year, or a total of 27,160,000 since the hatchery was started, seems very trifling in comparison.

Merely hatching lobsters presents no great difficulties; slowly circulating sea water is required, and in due course the eggs hatch; but the difficulty, which so far is, I believe, unsurmounted, is to feed the little creatures after they have come into the world. At the present stage of our knowledge it is deemed best to turn them into the sea before they require artificial food. Not that they refuse to eat, for they are most voracious things, eating anything that is given them, and even one another, and many millions will die of indigestion if they are only given the opportunity. At that early age their enemies in the sea are so numerous that a very small percentage of the many millions which are hatched and turned in are likely to come to maturity. When the food difficulty has been overcome, and lobsters free of dyspepsia can be reared to the length of a few inches in ponds, we shall have some striking results.

Nearly akin to the lobster is the crawfish, a spiny, thorny-looking creature, but lacking the big claws of his brother. The differences between the two are plainly shown on page 316. The crawfish takes a bait at times, and if you feel a dead weight on your line as you are hauling up, be ready with the landing net, or he will probably drop off the hook before you can lift him into the boat.

Now and again lobsters which have foolishly clawed hold of the baited hook are caught from pierheads and by anglers in boats. And an agreeable variation they are to the pierhead routine of pout and small flat fish. They should be very gently swung in and a landing net used if possible. Sometimes they are hooked in the mouth and break off the point of the hook.

Crawfish figure in the period called classical. Pliny, who it must be feared was a teller of fish stories, speaks of one four cubits long. The ancient Romans used to eat them in company with asparagus. There is a story told of one of the three notorious gluttons bearing the name of Apicius, that, hearing crawfish of most extraordinary size and exquisite flavour were to be obtained on the coast of Africa, he chartered a ship and proceeded thence. Sad to relate, he found the crawfish of

that side of the Mediterranean little better than those of his native land, so in great disgust put about and forthwith returned to Italy. To see crawfish at their best he should have gone to the West Indies, where he would have found most gorgeous members of this particular family. Off South America they are very abundant, particularly round the island of Juan Fernandez.

CRAB, LOBSTER, AND CONGER HOOKS

Those who would join in the delights of crab and lobster catching should provide themselves with a barbless iron hook, either fixed into a wooden handle or with the shank extended to four or five feet and turned into a ring at the end. The hook itself should measure about two and a half inches across, the point turned very slightly outwards, and, for crabs and lobsters, must not be too sharp. For conger eels it cannot be sharp enough; so, if all three kinds of fish are expected, take two hooks. It is well to be provided with a small file wherewith to sharpen the points which soon get blunted against the rocks. Other things are wanted beside the hooks; to wit, youth, health, strength, vigour, good temper, a light hand and sensitive touch. An ordinary fisherman's creel slung on the back to carry the prey in, and either a small round prawn net or a landing net, will be found useful. Also some fine twine to tie up the claws of those monstrous big lobsters we are going to catch. We must make up our minds to get wet, so should dress accordingly; an old pair of gymnasium shoes, flannels, and a jersey—there is no better attire for the purpose.

It must be the time of spring tides—that is absolutely essential—or we shall get no lobsters, for their holes are generally situated so near the lowest low-water mark that they are not uncovered at other times. Even then they are, as often as not, a

few inches below the surface. How well I remember my first day's crab hooking! My tutor was a poet, and it was a beautiful sight to see the kindly man of verse slipping among the rocks, putting his little iron hook into a hole here and a hole there, sounding them for shell fish. The tide was ebbing, and just as we reached the shore I saw a conger of several pounds swimming slowly seaward adown a miniature creek. I dashed at him with my hook, but missed him. Again and again I struck wildly, and finally brought him out on to the rocks and hammered him until he was a shapeless mass. I had tasted blood and was ravening for more, but the poet said it was no use to continue fishing until the tide was lower. So we sat down and looked at the blue sea.

Soon the poet strolled off, and presently came back with a lobster—a big one, but minus one claw—and I think he also had three prawns. Then we started wandering over the rocks, trying every pool for prawns and every likely hole for crabs. Lobster holes, which are a thing of themselves, were few—the poet knew them, and I did not. There were, however, no more lobsters forthcoming. None the less, it was a day full of joy and novelty. There was one big conger which tried us severely. It was in a small cavity, one entrance to which was so small that I could only just get my hook into it. I could feel his soft sides, and directly he was touched there was a great slap of his tail in, I suppose, the pool of water standing below the rock. There were two ways into this little cavern, so the poet guarded one door and I the other; and ever and anon, as we poked about, our two hooks would catch one in the other, and thinking we had a fair hold of the fish we would each give a terrific pull and nearly break our wrists; but finally my hook, which had long before been thoroughly blunted on the rocks, somehow or other caught hold of the creature, out he came kicking, and we despatched him.

This method may be described as fishing on land, in the dark, by touch. The hook has to be most gingerly inserted

into every likely-looking hole, and after a while, it is not difficult to distinguish between the rock and the shell of a crab or the yielding body of an eel. A somewhat mean way of finding crab holes is to take a piece of line about two yards in length, fasten to one end a piece of dead fish, to the other a fragment of white or red rag and a small stone. Place this among the rocks at low water. As the tide rises and covers the spot a crab will as likely as not seize the fish and carry it off to his lair, leaving the piece of rag outside to betray him when next it is low water. Of course a number of these informers may be laid along the seashore. Lobster holes have to be learned, and the crab-hooker who tries his skill in a new country is not likely to catch many of these shell fish, though he may be lucky enough with crabs and congers. The lobster holes, as I have said, are close to the low-water mark; sometimes there is a few feet of water over them, and they are not infrequently provided with bolt holes. The local people know this well enough, and will always put a prawn net over the bolt hole while they ply the front door with their crab hook. When either crab or lobster takes alarm, and finds that there is an enemy attacking him, if he has not a back door by which to retreat he wedges himself up with his back against the walls of his little cave, and is most difficult to dislodge. Professional fishermen who catch a great many crabs rarely give any of these creatures time to fix themselves. The moment they feel the shell of a good crab the hook is turned upwards, and the unfortunate animal is twisted out.

Great care must be taken to secure lobsters as they are drawn out of their holes, for they are most powerful swimmers, one flap of their tail sending them many yards backwards shooting through the water; and, even if you get them out into a small shallow pool where everything is visible, you will probably lose them unless you get them in a net at once. The more a crab is worried by the hook, the more strongly does he wedge himself in his rocky fastness; but a lobster is more inclined to show fight, and will sometimes lay hold of

the hook with such fierceness and bulldog tenacity as to allow himself to be drawn out. After being pricked he sometimes marches out. Professional hookers run the hook under the lobster in a horizontal position, then turn up the point, and gaff smartly.

I need hardly say that it is the early crab-hooker that catches the lobster; for the lowest spring tides come but rarely, and the local people are all on the *qui vive* to take advantage of them. Lobsters have this delightful peculiarity, that if we take one out of a hole, another will probably be found in the same position at the next spring tide. In this respect they much resemble large trout in rivers. An ancient dame of Skye and lobster catcher of repute, one Effie McArthur informed Mr. Pritchett, to whom we are indebted for the portraits of our shell fish, that when a lobster is in its soft state changing its shell, it is usually guarded by a large, well-armed lobster which has its abode in the same little cavern. Thus having hooked out one unfortunate she would search further in the same place for his companion.

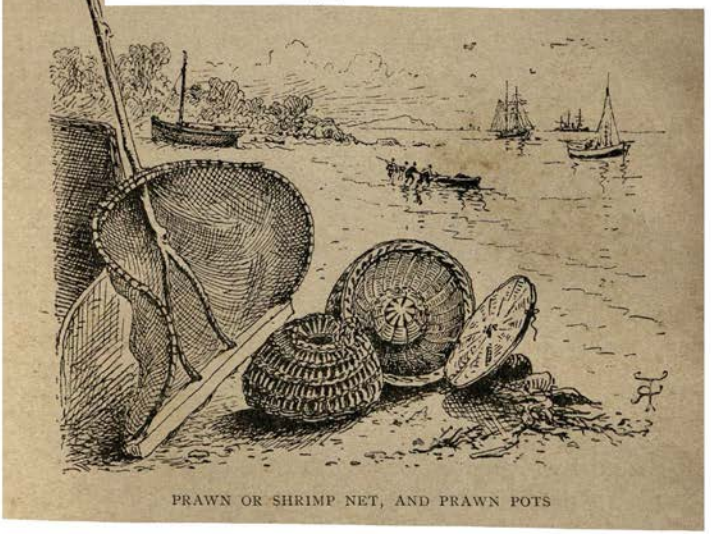
There is always the chance of catching a very large conger, and it is just as well to be provided with a club or 'priest' wherewith to destroy him. A Welsh youth who used to fish with me a good deal, hooked a conger of nineteen pounds from under a rock. Before the fish had time to struggle he ran well up the sands with it; but, recovering its senses, it began to twist rapidly round and round in the extraordinary way common to eels, and finally hit my young friend a blow on the side of the head with his tail which, in his own words, 'knocked him silly.' He killed the great thing, but was ever after shy of handling even a conger of moderate size.

I hope no young fishermen, reading this chapter, will think it a simple matter to catch dozens of conger, crabs, and lobsters wherever there happen to be rocks along the sea coast. Unfortunately, these fish are not over-plentiful, and there are many rocky shores where they are so scarce as not to be worth the trouble of going after. On some parts of the Welsh,

Irish, and Scotch coasts, however, they are very numerous. The most suitable places are very rough and rugged rocky shores where there is a considerable rise and fall of the water at every tide.

Prawning should certainly be carried on at the same time as lobster and crab hunting. One of the best nets for pushing along a sandy bottom near rocks is shown in the illustration, in company with some prawn pots hailing from Cowes and Plymouth respectively. The latter is shown with its bottom open for the removal of the prawns and baiting purposes. This net is also used for shrimps.

For small rocky pools a round hand net is neces-

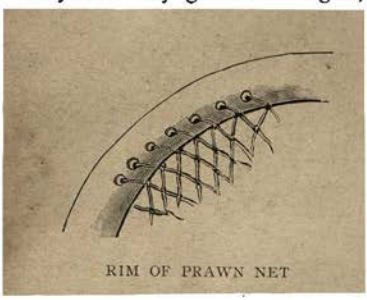


PRAWN OR SHRIMP NET, AND PRAWN POTS

sary. It should have a long handle, about four feet six inches long, and the hoop should be quite eighteen inches across, rather flattened towards the front. An ordinary piece of stout wire will do for the hoop if the net, which is best tanned, is laced on to it with *wire;* but it is far better

to have the regular hoops, made for the purpose, which are flattened and drilled with holes in the manner illustrated. The wire or twine with which the net is attached to the hoop passes through these holes and does not chafe against the rocks.

It is not everybody who can distinguish a prawn from a shrimp; in fact, many a small prawn is sold under the name of pink shrimp. The chief characteristic of the prawn is a long serrated spur which projects from its head; this is almost wanting in the shrimp. These delicate little fish grow to a considerable size in English waters, but not nearly so large as they are often found abroad. In India, where they are very great scavengers, they are recorded a foot in length.



RIM OF PRAWN NET

There is considerable skill in catching prawns in rocky pools. One man will take twenty or thirty prawns from one pool, while another may only succeed in inveigling two or three into the net. It is not advisable to begin by jumping into the pool and poking about with the net. The water should rather be approached cautiously, when perhaps a few prawns will be seen swimming about, and with good fortune may be captured without any great disturbance, the net being gently placed underneath them. But after that every prawn in the pool will have gone into hiding, and will probably be found not deep down, but close to the surface under the fringe of seaweed which gently undulates with the rise and fall of the water.

Any little rocky crevice near the surface may contain prawns. The net should be placed over its mouth, and the little fish driven out by means of the crab hook. The net should also be worked along the edge of the seaweed as I have indicated.

AN AMATEUR SHRIMPER

Small pools which are nothing more nor less than hollows in a big rock, can be baled out, and the prawns will be found kicking about on the bottom, in company maybe with other treasures of the deep or shallows. In some formations the rocks trend seaward in little reefs, and between each reef will be a strip of sand; such places are best worked with the shrimper's net illustrated on page 309. But beware of weevers, stinging fish, whose portraits may be seen at the end of Chapter XIII. For their sake go not bare of foot.

A deadly way of catching prawns is to lower a number of hoop nets exactly the same as for lobsters (p. 303), but smaller, to the bottom of pools and leave them there for a while. The net, which may measure eighteen inches in diameter, must be baited with dead crabs or other offal placed across it on a skewer. The cork at the end of the rope is laid hold of by means of a stick with a forked end—a clothes-line prop in miniature—and the net lifted. These nets are occasionally used from boats, but are best suited for those parts of the coast where there are large pools left among the rocks by the receding tide. Prawns and most other marine creatures appear to be most active as the tide begins to flow, and the first quarter of an hour of the flood tide is usually the most successful time to catch them. Where the prawns are plentiful the net is lowered into the pool and raised at the end of a few minutes, the rope being held meanwhile in the hand.

Another method of catching prawns is by setting what I may term fine-meshed lobster pots. Two are illustrated along with the shrimp net. They have to be baited with crushed crab to induce the fish to enter them.

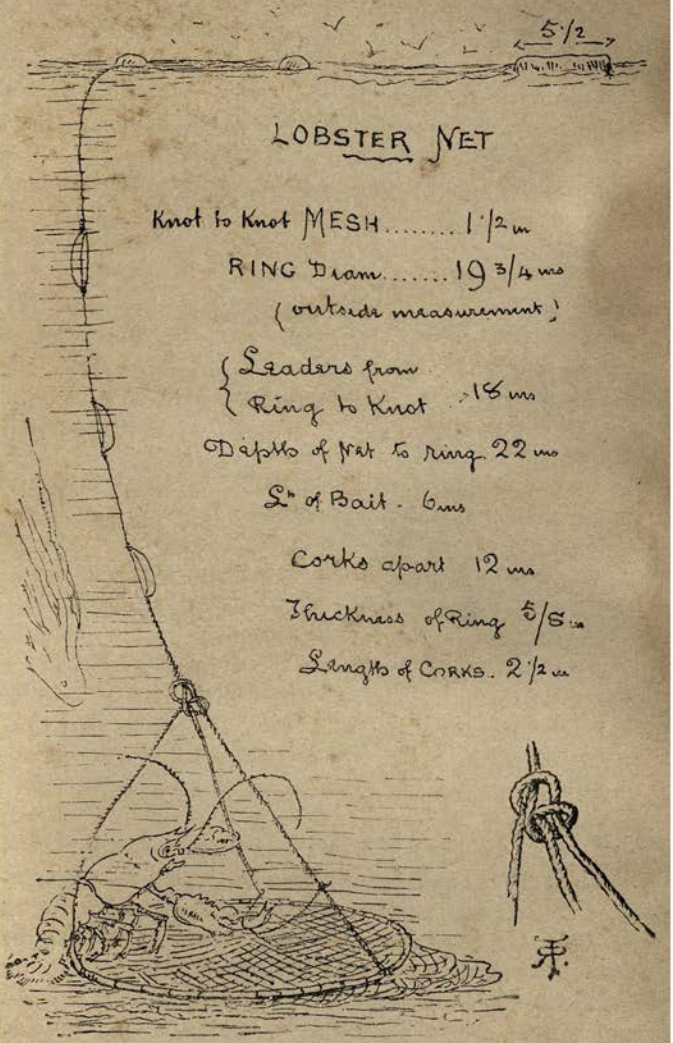
Of the shrimp I need say but little. It is a fish of sandy shores, and no great exercise of skill is required to wade in knee deep and push the shrimp net along. Boys should not be allowed to use a man's shrimp net, but should be content with something half the size. Important shrimp fisheries are carried on in large estuaries and other places by small trawling boats, and, as I have said in a previous chapter, these fine-

meshed trawl nets catch immense quantities of immature flat fish. The shrimps while still alive are sifted through sieves which separate the saleable from the undersized. Many of the shrimpers of the Thames estuary and elsewhere carry great cauldrons in which they boil their shrimps on board, so that by the time they come into port their catch is ready to be placed in the train and sent off without delay to London. The head-quarters of the Thames shrimping industry is at Leigh, in Essex. Excepting some modern additions to the place, the whole of Leigh is inhabited by fishermen.

By the fishery bylaws of the Thames Conservancy, 'all shrimps'—by which, I suppose, is meant those which are caught—'to be sifted when alive through a sieve of three-eighths of an inch between the wires, all of which wires shall be placed either vertical or horizontal, and no shrimp which will pass through such sieve shall be kept or retained.' I suppose the makers of the bylaw understood it. I live in hopes of meeting some one who can explain to me the advantages of a vertical sieve.

The setting of traps, called pots, for lobsters and crabs hardly comes within the range of 'sport,' but the sea fisher may be glad of a little information on the subject. First, however, a few words as to the hoop net by which lobsters, when plentiful, can be caught. Years ago the Hebridean fishermen had the habit of going out in small boats to lay down these nets baited with offal. As soon as they felt a pull on the line they would haul up, when there was generally a lobster in the net. Now they say lobsters are so scarce that this method is of small service, and, in lieu of a single hoop, boats may be seen going laden with a large number of lobster pots.

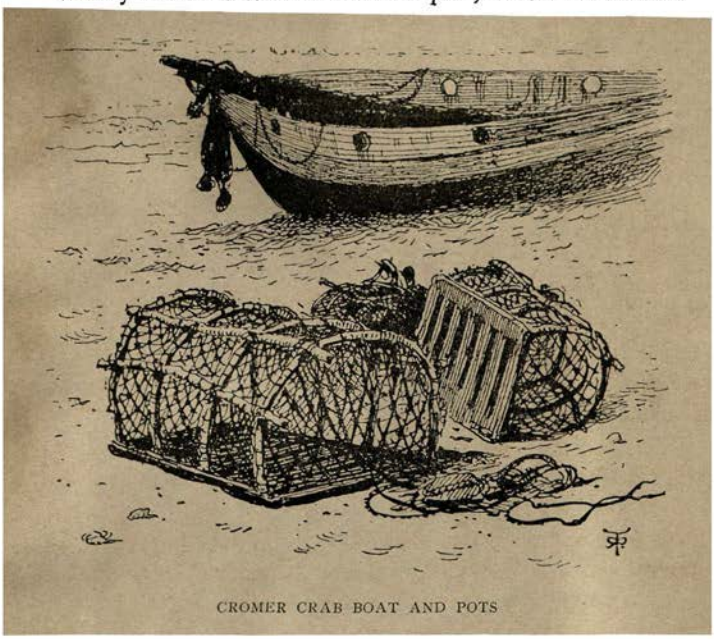
At Walton-on-the-Naze this method of fishing is still carried on. The net, the measurements of which can be ascertained from the illustration, is let down on the bottom, and the line is buoyed. Those who are expert at the practice can feel by means of the line when anything is in the net, even distinguishing crabs from lobsters. When a fish has taken


5/2
LOBSTER NET
Knot to Knot MESH..... 1 1/2 in
RING Diam..... 19 3/4 ins
(outside measurement)
Leaders from Ring to Knot 18 ins
Depths of net to ring 22 ins
L^th of Bait. 6 ins
Corks apart 12 ins
Thickness of Ring 5/8 in
Length of CORKS. 2 1/2 in

LOBSTER HOOP NET FROM WALTON-ON-THE-NAZE

the bait, the net has to be hauled in at the greatest possible speed. The corks on the hauling line keep the sling lines or bridle steady, which is important, as the lobster is a shy fish. This fishing is a summer pursuit, excepting the months of June or July when the lobsters are changing their outworks or skeletons.

Finally there are lobster and crab pots, which are familiar



CROMER CRAB BOAT AND POTS

to most of us. These can be made of ordinary wickerwork, galvanised wire, or of light framework covered with netting. More elaborate ones made for yachtsmen's use are of netting with collapsible frame. Mr. Hearder made a number for the *Challenger* Expedition which were arranged in sizes, the bottoms being removable, so that one would fit inside the other, and a quantity could be carried with a very small sacrifice of space. The galvanised iron traps of various kinds are not nearly so

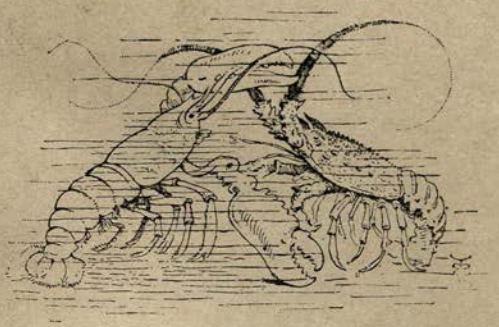
successful in taking fish as those of wicker or netting. At Cromer are some of the most clever lobster and crab fishermen round our coasts, and they use a pot with a piece of iron grating at its base. These pots are not round, but in the form of a section of a tunnel, the lobsters and crabs entering it at either end. Most other pots are of the shape shown on p. 31, and have to be weighted with bricks, stones, lead, or iron. Of whatever kind they are, they must be very carefully buoyed with a sufficiency of line and a sufficiency of cork.

The following are the dimensions of a Cromer lobster or crab pot, the same pots being used for both kinds of shell fish. Height, 11 ins. ; length, 23 ins. ; breadth of iron base, 15½ ins.; thickness of iron base, ¼ in. ; number of iron bars in base, 7 ; mesh of net, 1 in. ; mouth of the openings (one opening on each side), diameter 8 ins. ; narrow end of openings, diameter 5½ ins.

In a strong tide the corks may get sucked under, and the owner may deem the pots lost ; but if the place is watched when the tide is slack, they will usually be recovered without difficulty, provided their position has been noted in true nautical fashion—that is to say, by taking marks.

Let me close my subject by the statement of a very interesting fact. When alive the lobster shell is a bluish-black colour, but the prolonged application of boiling water brings about a curious chemical change in the pigment, the creature turning red. In a picture which was exhibited at the Royal Academy some years ago, delineating, if I recollect aright, some incident occurring in Neptune's realm, one of the figures was a remarkable lobster, remarkable inasmuch as the chemical change in question appeared to have taken place before it had been boiled ! The artist was unmercifully criticised, and no doubt suffered much in spirit. But after all there was authority for the colour, for not only red, but white, blue, yellow, and also green lobsters have been caught. At Neptune's or any other court, those most gaily attired would naturally be the representatives of their race. These are words of comfort for

the persecuted artist, who may verify them by referring to the 'Field' of May 24 and June 7, 1890, and Sept. 10, 1891; Buckland's 'Curiosities of Natural History,' 1st series, p. 27; 'Land and Water' of May 30, 1891; and the Natural History Museum of South Kensington, where an albino lobster may be seen.



LOBSTER CRAYFISH

# CHAPTER XI

## SURFACE-FEEDING SEA FISH

WE have now fished many waters in many ways; journeyed round the coasts of Great Britain—fly fishing here, paternostering there, casting out our spinning or other tackle from land or pierhead; now and again, when the sea was not too lumpy, trusting ourselves in small craft; and, going further afield in yachts or large fishing boats, have sought such sport as the deeper water affords. We have even set lobster, crab, and prawn pots, and hunted among the rocks with iron hooks for fierce congers. During that voyage home from India there was ocean fishing in tropical seas for the giant fish of the mackerel species; and, in addition, we carefully examined into the several advantages of various baits which may or may not be obtainable, as the case may be. With such experience we should have acquired a good general knowledge of sea fishing; but there still remains much to be learnt concerning the habits, peculiarities, and certain not-hitherto-noticed special means of capturing, the more sporting sea fish.

First, for they deserve the place of honour, come those fish which commonly or frequently swim or feed near the surface, and are to be caught with fly or whiffing tackle. The most important of these undoubtedly is—

The BASS, the *labrax* of Aristotle, and *lupus* of Pliny. This most admirable fish is nothing more nor less than a large marine perch which, when it enters estuaries for spawning purposes at the end of summer, sometimes proceeds up rivers into fresh water. Indeed, it is said that the Romans not only kept

bass in captivity, but also bred them in aquaria filled with spring water. Mr. Arnold, of Guernsey, repeated this experiment—omitting the breeding part of it—not only with success, but went so far as to say that the flesh of the fish was greatly improved by the sojourn in fresh water.

Though anglers who have cast their lines among shoals of these fish and caught nothing, may question the fact, there is not much doubt that the sea perch were anciently called wolves on account of their voracity, and, perhaps, also because of a certain sense of cunning they appear to possess when surrounding the sand-eels, young herrings, and mackerel, &c., on which they largely feed. They have various local names : in Kentish waters are often termed *sea dace*, while at Herne Bay they are dignified by the name of *white salmon*. In Scotland, where they are very scarce, they are sometimes termed *gape mouths* ; while at Belfast the people persistently call them *white mullet*, or *king of the mullets*.

In form the bass is less graceful than the dace of fresh water, but is built on finer lines than the chub, and may be always recognised by the prickly dorsal fin, similar to that worn by the freshwater perch. The back is dark blue, while the sides and belly are silvery. It has a liberal allowance of teeth, some placed in crescent shape on the roof of its mouth, others in a small patch at the base of the tongue. Its mouth otherwise is very leathery and tough, and, so far, very different from that of the mullet. With regard to size, a ten or twelve pounder must be considered a large fish, though occasionally one of 15 lbs. is caught by the angler. Yarrell mentions one of 28 lbs., but I must confess to being somewhat distrustful of the weights of fish given by the older ichthyologists. It is said that a bass of 22 lbs. was once netted near Herne Bay Pier. A friend tells me he had an account of a bass weighing 24½ lbs. after being cleaned, from a trustworthy man who himself caught the fish.

For angling purposes bass may be divided into two classes : those which run from about two pounds to five pounds, and may sometimes be seen in immense shoals, hunting sand-eels or fry ;

and the large and more aged fish which, in the dusk of early morning, will be seen swimming in stately fashion in little companies of two to five in number, or thereabouts, close to the edge of steep rocks, round wooden piers and jetties, and among the old woodwork of harbours. It is these large, shy, old fish which the enthusiastic bass fisher feels it an honour and a duty to catch. They are the Thames trout of the sea. But for lively and continued sport commend me rather to the shoals of smaller bass when well on the feed. On many days even these cannot be caught, though to all appearance they are savagely and hungrily chasing their unfortunate prey. As in freshwater fishing, much depends upon the weather. If it be very bright and sunny the fish are scared by the line, and are not to be deceived into deeming a piece of indiarubber band a succulent worm or a baby eel. Under such conditions baits to be tried are the curb-chain spinner (p. 130) or a white unvarnished sole-skin phantom with silvered head. The angler, however, will catch nothing unless he keeps out of sight and the boat is worked noiselessly.

From an English bass-fisher's point of view, the most interesting parts of our coast are those bordering Devonshire and Cornwall, portions of Wales, and the Island of Anglesea. Sometimes they are fairly plentiful in or near the estuary of the Thames, as, for instance, at Herne Bay. Not that bass are wanting elsewhere, for they can occasionally be found, even in considerable numbers, on the East coast, as far north as Scotland, and even Norway, where, however, bass are very scarce. In Ireland they are caught on the east and south coasts, and I have known large shoals enter the Shannon estuary, and swim up the mouth of a tributary river. Probably, when sea fishing is still further recognised as a sport, places will be found on the Irish coast where bass are very plentiful.

Speaking generally, the bass is a summer fish, not leaving the deep sea and approaching the coast until the mild weather sets in. Much depends on the state of the weather. If it be cold their coming will be delayed, while in warm, genial

seasons they may be expected somewhat earlier than usual. On the coast of Devonshire bass have been captured as early as February, but it is usually March or April before any quantity is observed. Thence onwards, until the cold weather comes again and drives them into deep water, these fish will be found, either in shoals or singly, off headlands, in races, playing about the bars of rivers, and towards the end of the summer entering the estuaries in large numbers. Sometimes they are feeding on the surface, sometimes on the bottom. While the youngsters play about in the sharp running water and perpetrate fierce onslaughts on shoals of innocent sand-eels and herring fry, the more elderly fish, as I have pointed out, coast round the rocks, and enter harbours and other places where there is plenty of refuse for them to feed upon. In such situations their tastes appear to degenerate, for they will often scornfully turn away from a delicate sand-eel presented to them alive, while a malodorous piece of oily ray's liver they will suck in greedily.

There are few baits bass will not take at times; but, as I have pointed out, where fish develop a taste for scavengering, their tastes must be pampered, and if ray's liver is not available the entrails of chicken or rabbit (if somewhat high so much the better) may often be used with success. Of squid, cuttle and octopus they are particularly fond. The largest bass I ever hooked came like a tiger at a piece of squid I was using as a bait for conger, one night off the Welsh coast. I was hand-lining, and thinking I had an eel on, which would have to be hauled by main force away from the rocks, I brought this fish up to the surface in double quick time. There he rolled and splashed in a bath of incandescent silver as it were, for the water which he lashed with his tail was full of phosphorescence. He brought such consternation to the heart of the little Welsh lad who was with me, that the youth of many consonants to his unpronounceable name was too unnerved to use the gaff, and while I was abjuring him to do his duty the hook came away, the great fish disappeared, and nothing was left but flecks of

phosphorescence on the surface of the dark water. He was every ounce of fifteen pounds. Indeed I might add another five pounds to his weight, and who can contradict me? There is the one redeeming point about a lost fish. It is the proud privilege of the lamenting angler to fix the weight of the dear departed without the least fear of contradiction.

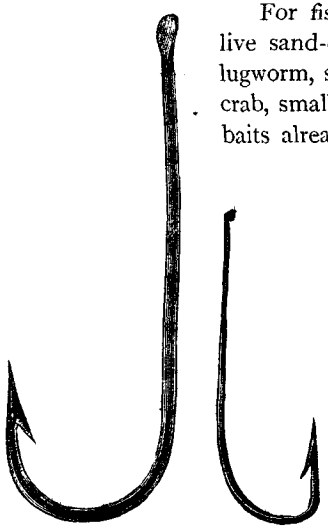
But to return to the bait question. Among the shoals which are feeding in some tidal race during the best of the flood tide, the bait should certainly be somewhat similar to the fry on which they are feeding. A strip of fish skin, the Sarcelle bait, a sand-eel, or a very small mackerel, all these may be tried.

Sometimes the fly fisher meets with great success. Among the many flies which may be used, I doubt if any are better than the Whitebait fly (see p. 135), the Shaldon Shiner, and the Goldfinch. The dressing of the Shaldon Shiner has already been given (p. 149). The Goldfinch is a well-known salmon fly, which is dressed as follows: Tag, gold tinsel and black floss; tail, a golden pheasant topping; body, gold-coloured floss; pale yellow hackle; blue jay at shoulder; gold tinsel; wing composed entirely of toppings; red macaw ribs and black head. But bass fishers generally tell you that a piece of fish skin—gurnet belly for preference—cast like a fly is more killing than feathers and tinsel.

Above all things, the boat must not be taken right through or even very near the shoal. If the angler has not the skill or necessary tackle to cast among the fish, the boat should be worked across the tide in the fashion known as harling, a method very carefully described on pages 240 and 241. From a moored boat drift lines or float tackle is used, the tide carrying the bait down to the fish. If a small *live* fish of any kind, such as smelt, sand-eel, or flat fish, can be obtained for bait, so much the better. The current will often work a spinning bait.

It is not always necessary to moor the boat when drift-line fishing, for the crew can continue pulling steadily, and so keep the little craft in about the right position. In that case it is a

good plan when a fish is hooked to edge the boat well to one side of the shoal, drop down with the tide while reeling in, and play him below the uncaught bass. If the water is at all clear this plan, which the fly fisher should also bear in mind, will prevent disturbing the fish and lead to further captures. If it is thick and the fish are taking freely, it may in some cases amount to a loss of time with no corresponding benefit, but it is very seldom that the manœuvre does not repay the trouble involved.



BASS HOOKS

For fishing from rocks or piers the live sand-eel may be tried, or ray's liver, lugworm, squid, a piece of mackerel, soft crab, small flat fish, or other of the many baits already mentioned. Where the fish can be approached, some ray's liver should be placed in a coarse sack and fastened to a cord and sunk by means of stones. The perfumed oils emanating from this scent-packet are very likely to attract the fish to the spot, where, if they find a tenderly arranged morsel of ray's liver awaiting them, they will surely appreciate the thoughtfulness of the angler and meet his wishes in the matter.

For use on the bottom with a leger, as, for instance, on the sandy shore of an estuary, there are few baits better than a strip of squid, but ray's liver is equally killing in some places. For these and some other baits the large round bend hook shown in the illustration is suitable. If the fish run small, or the bait is insignificant, use two or three sizes smaller. It may be either round bend or the Pennell-Limerick illustrated. A round bend gets a better hold round bones and cartilages than a narrow hook of abrupt angle.

A capital plan—one followed a good deal at Brixham, both in the harbour and outside—is to thread a small fish on a No. 3 or 4 Exeter round bend hook. This is done by means of a baiting needle which brings the snooding in at the mouth of the bait and out at its tail; in fact, the arrangement closely resembles the gorge trolling bait of pike fishers. The snooding need not be very long. To it is attached a somewhat fine unleaded line. The bait is thrown overboard and allowed to lie on the bottom. When a bass takes it he must feel no resistance whatever, and should be given a few seconds to swallow it and go off with four or five yards of line. Those who read Mr. Harmsworth's contribution will no doubt notice the resemblance between this method and tarpon fishing. In the harbour the favourite bait is a piece of squid or liver, the same unleaded tackle being used. These harbour fish are so excessively wide awake that if they feel the pull from a lead they at once drop the bait. A rod can, and in *most* cases should, be used with this tackle. A bait I see I have *not* mentioned is the guts of the pilchard, which all fish love. They make a most excellent ground bait, particularly if mixed up with pounded crabs.

In considering what tackle and baits to use, the angler must look at all the conditions of depth, colour of the water, nature of bottom, distance from the fish, &c., and endeavour to decide which of the various methods of angling mentioned will best enable him to put the right bait in front of the fish. There is really no royal road to fishing, and rule-of-thumb work will more often than not simply lead to failure. In the case of bass, and still more of mullet, the angler has to pit his brains against some of the most cautious and cunning of the fish which swim in the sea. Indeed, of large mullet it may be said that, though perhaps not more wary than big bass, they are infinitely more difficult to capture than the highly educated chalk-stream trout or the venerable carp of some ancient fish stew.

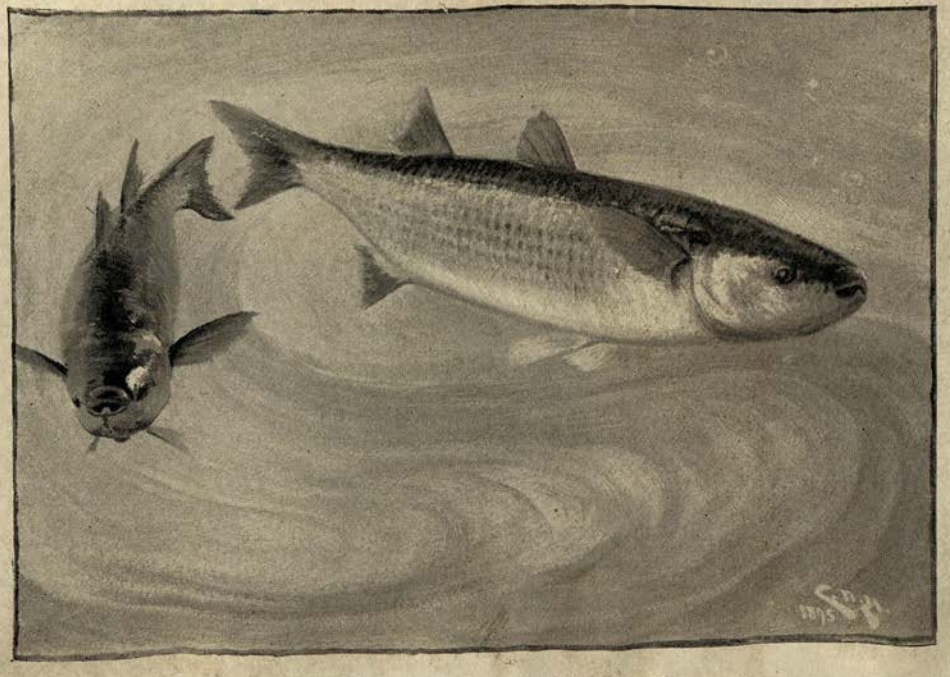
Tiros must not expect to catch many big bass in a day. If

they land an eight-pounder they may well regard it as a triumph. For numbers they must seek the whereabouts of the school bass, and if fortune favours them, and they and their boatmen are fairly expert, they may weigh their fish by the hundredweight at the end of the day. That veteran amateur sea fisherman, Mr. J. C. Wilcocks, by whose teaching in his admirable work on sea fishing I and many more greatly profited in years gone by, has told how once, fishing with a friend close to Berry Point, at Teignmouth, five hundredweight of bass were caught. I doubt if there is anyone else living who has met with such extraordinary success ; indeed, if everyone were to kill bass in this wholesale way, in the next edition of this work the article on 'Labrax lupus' might be omitted.

The GREY MULLET, like the bass, has a prickly dorsal fin. It is very easily distinguished from its more voracious companion by the fact that this fin contains only four very evident spines, while that of the bass contains eight. The mouth of the mullet, too, is small and only suited for soft food. Of these fish there are two kinds, the great grey mullet (*Mugil capito*) and the lesser grey mullet (*Mugil chelo*), the latter being very abundant in some South-coast harbours, and sometimes as easy of capture as the great grey mullet is difficult. A distinction between the two varieties is the number of rays in the tail fin, the larger kind, which is also called the 'thin-lipped mullet,' having seventeen, while the lesser, or thick-lipped mullet, has fifteen.

Of red, or surmullet, beloved of the Romans, I need say nothing, for these fish are very rarely captured, except in nets, either by the sportsman or the professional fisherman, only now and again succumbing to the charms of a harbour-bred ragworm, more particularly in the neighbourhood of very foul drains. I commend this point to the attention of those who deem red mullet worthless unless served *à la* woodcock. A good many are caught in trammel nets.

Grey mullet are gregarious and very plentiful in some estuaries and harbours, Chichester, Littlehampton, Plymouth,



GREY MULLET—'FOLLOWING UP THE TIDE'

Weymouth, and the mouth of the Stour being favourite haunts of theirs. They appear to be as much at home in fresh water as in salt. At one time shoals were to be found in Oulton Broad, entering there, no doubt, when the lock was open, or, perhaps, making their way by the Yare and journeying round to Mutford.

In the thirties a gentleman named Arnold, living at Guernsey, sent a communication to the Zoological Society of London, concerning some interesting observations he had made on mullet kept in a five-acre lake which for nine months in the year was filled with fresh water. In summer the sea entered the lake through a tunnel. There were several varieties of sea fish in the enclosure, including a large number of mullet which appeared to breed freely. I have no doubt that mullet could be introduced with advantage into many a semi-tidal pool, provided there were a sufficient depth of water.

A very curious experiment was recorded in connection with the placing of a mullet which had been accustomed to the Baltic (where the amount of saline matter is small) in North Sea water in which there was three times as much salt. The fish was forced to float. For about three hours it made ineffectual attempts to keep below the surface, and then died. From observations made in an aquarium, it seems that mullet are in the habit of sucking sand into their mouths, almost immediately afterwards sending out the coarser particles. By a beautifully arranged natural filter, hard substances of any considerable size cannot find their way into the stomach, nor can sand get access to the gills ; for this reason, therefore, it is absolutely necessary that any bait used for mullet should be soft, and the hook should be small. If the hook were too large, it would be rejected and the bait retained.

Following up the tide into estuaries and harbours, these shy fish feed greedily, sucking in various odds and ends of partly decomposed matter, silkweed, ragworms, fish garbage, and the like. They will swim after a ship that has come from

abroad into dock, and work all over its bottom with their snouts, eating the softer seaweeds and small marine insects.

Mullet are very easily tamed, and, being susceptible to sound, have been known to assemble for dinner on hearing the knocking noise of the chopper employed to prepare their food. So acute is the hearing of these creatures, that old mullet fishers would never dream of shouting to one another, and when rowing after a shoal, the men, if careful, will muffle their oars.

The thick-lipped variety is much more widely distributed than are the large grey mullet. Quantities have been seen in Belfast Lough and other parts of Ireland. From June to September they are found on the coasts of the Orkneys and Zetland, and also on the eastern and western shores of Scotland. Of all the sporting fish of the sea, grey mullet are the most difficult to capture and among the gamest when hooked. There are times when the lesser variety will feed ravenously, and are caught in large numbers on a paternoster baited with a live ragworm ; but the big fellows that we see with their broad dark backs swimming round the piles in harbours, or under the old-fashioned wooden jetties and piers, are singularly cautious so far as taking a baited hook into their mouths is concerned. In the matter of showing themselves their timidity is not apparent. Sometimes they are speared or harpooned, and there is a legend of an Italian gentleman who caught many fish in this way from Margate Jetty.

These fish are as difficult to net as they are to secure with hook and line. When first surrounded there is, to use the words of the reporter, 'a scene of great confusion' ; but presently they become organised, and elect a leader who carefully examines the net for holes, and, failing to find any, leaps over the buoy rope, the rest following. In the Mediterranean the fishermen sometimes heighten their net above the surface by means of pieces of cane. Another plan is to sprinkle a little straw or sawdust on the water inside the net. The mullet then seem unable to distinguish between the rope and the straw, and

take short leaps. At Naples the fishermen sometimes place rafts made of reeds close to the outside of the nets encircling the mullet, so that when the fish leap they fall on to the rafts and are captured. In English waters a trammel net is often found deadly.

Sometimes enormous takes of grey mullet are made in seines. One of the biggest hauls on record occurred in January of this year (1895). A quantity of these fish was seen in Whitesand Bay, Land's End. The Sennen Cove fishermen were sent for and shot their nets by moonlight, about ten o'clock at night. About twelve thousand mullet, averaging something like 4 lbs. each, were surrounded. Many of them weighed as much as 8 lbs. This was a very unusual and very valuable catch, the fish, which weighed several tons, selling for 600*l.* The take seemed so remarkable, that I doubted the accuracy of the figures and wrote to the postmaster of St. Just on the subject. He kindly assures me that the report is perfectly correct, and adds that the buyers who sent the fish to Paris made a very bad bargain.

Angling for these shy fish is like an incurable disease—there are many prescriptions for it. Some of these, I fear, do not stand the test of time and are merely based on chance successes, depending more on the humour of the fish than the attractiveness of the bait or 'cute arrangement of tackle. The great point in mullet fishing is to use ground bait, not, as I have previously explained, so much for the purpose of attracting fish as of lulling their suspicions. Those who have studied the chapter on Baits may remember that some years ago I suggested to the director of the Marine Biological Association that macaroni might be used as a vehicle for the bait extracts which a chemist employed by the Association was preparing. Whether experiments were ever tried with the substance, I cannot say. But now, behold! while I am at work on this chapter a sea fisherman, Mr. John Kirby, under the pseudonym of J. A. C. K., sends a most entertaining and practical account of mullet fishing to the 'Field,' in which he appears to prove most conclusively that the one really successful bait for large grey mullet is macaroni.

This gives me some hope that the Italian paste, either flavoured or not with some biological preparation, will prove a useful substitute for the mussels, pilchards, and other natural baits which the professional fishermen have so much difficulty in obtaining.

J. A. C. K. catches his mullet in this wise. His fishing ground is in the Fleet, a great backwater which separates the Chesil beach, west of Portland Roads, from the mainland of Dorsetshire and lies midway between Weymouth and Portland. Two bridges cross it, one carrying the railway, and the other—known as the Passage Bridge—the public carriage road. At times this water teems with mullet, and occasionally big bass put in an appearance. The best mullet fishing is done during the ease of the tide. J. A. C. K.'s tackle consists of a stiff eighteen-foot greenheart salmon rod, a large Nottingham reel carrying 200 yards of hemp line, ten feet of stout salmon gut, at the end of which is a Pennell-Limerick No. 8 hook. Above it are five or six other hook links of medium salmon gut, six or seven inches long, lapped to the main length on gut at intervals of eighteen inches or thereabouts. Two feet above the bottom hook is a pistol bullet which is split and squeezed on to three inches of fine copper wire, the ends of the wire being lapped round the gut at a knot. The hook baits are pieces of ordinary macaroni pudding, and the gathering or ground bait boiled macaroni chopped up fine. Each bait consists of about three-quarters of an inch of macaroni which is big enough in the tube to admit the hook without splitting. The hooks have to be carefully covered and hidden. When everything is ready the angler takes the running line above the point where the gut is joined to it and presses it into the slit of a wine cork which acts as a float.

HOOK FOR MULLET WITH MACARONI BAIT

The next proceeding is to lay the rod against the parapet and, after pulling a sufficient quantity of line off the reel, to throw the bait into the water, and then lower the baited hooks (for the moment using the tackle as a hand line) under and

against the very noses of the fish. The bright-looking baits, so says J. A. C. K., soon attract a goodly congregation of fish, which inspect them, smell them, touch them with their sensitive lips, deliberate upon them, and apparently come to the decision that they are most excellent food for mullet, but dangerous. Therefore they absolutely decline to partake of the feast in the form set before them. Presently a big old fellow will whisk smartly round and deliver a stroke with his tail which knocks off the bait; a friend below opens his wide lips and the bait disappears. The other baits are knocked off in the same contemptuous way and eaten. The angler smiles, says nothing, and rebaits his hooks. Next he throws in some ground bait, and I confess I do not see why this proceeding should not have taken place earlier. This gathering or anti-suspicion bait is common macaroni boiled with skimmed milk and sugar and chopped up into quarter-inch lengths. As it sinks, the mullet, which as likely as not are feeding on the bottom, rise up, perhaps showing themselves, and take it greedily. While they are busily feeding flop go the baited hooks again into the very middle of them. Almost immediately a big fish will, or may, take in one of the baits; but it is a long affair, this getting food into the mouth of a mullet, and the time to strike is not yet. In a few seconds the float sinks, a decided backward twitch is given to the line, and the fish is hooked.

All this time the rod has been leaning against the parapet of the bridge, quietly and harmlessly. Many a shy fish has been put down by seeing a long wooden wand waving about between it and the bright sky. J. A. C. K.'s plan after hooking a fish is to give him the butt remorselessly, in fact treat him as one would a salmon which was being played, or rather held, a few yards above a considerable waterfall.

The mullet has a tender mouth, and it might be supposed that harsh proceedings of this kind were fatal to success, but some mullet anglers declare that there is less likelihood of the hook cutting out when the fish is played roughly from the very onset than if he were dealt gently with and kept on the hook a

considerable time; perhaps this is very much a matter of opinion. Certainly strong measures adopted from the very beginning of the battle sometimes appear to cow fish and take all the nerve and pluck out of them. The method described is suitable for fishing when the tide is slack. At the beginning of the flood or ebb, four or five split wine corks should be added at even distances to buoy the tackle. Throw in an extra allowance of ground bait, and drop the baited hooks just over it, so that all float away together.

One opinion I will venture; that now J. A. C. K. has let out the secret of his success (by the way, he catches bass as well as mullet in this manner), a troop of sea fishers will forthwith journey to the bridge over the Fleet and give those unfortunate mullet such a dose of the bait that it will be a case of *toujours macaroni*, and some other lure will have to be invented. It must not be supposed, however, that J. A. C. K. or anyone else has been invariably successful with large grey mullet. It took this ingenious fisherman six or seven weeks to bag his first mullet. If he caught one he was content, if two he was pleased. Two mullet averaging 8 lbs. each and a bass of 14 lbs. was the biggest bag. These were taken in about an hour at the top of the flood, and were the outcome of about ten fish run. Blank days were frequent, and would be expected in a neck-of-a-bottle tideway, slack water in which the gathering bait could abide round the hook baits being the essential condition precedent to the mullet taking to the hook freely. One hour's suitable water was the most that could be reckoned on daily. With regard to J. A. C. K. holding these large fish on very small hooks, I should think it very necessary that the hooks should be made extra stout in the wire, otherwise they would tear out.

Here is another prescription for catching mullet: Take the tough upper crust of a newly baked, plain bread bun and cut it in strips about half an inch wide. These should be kept in a tin for a few hours to toughen. Three-quarters of an inch cut from one of these strips is the bait; the hooks used are small. The main line, which is used without a rod, consists of horse-

hair, at the end of which is a length of twisted gut; the whole line is buoyed by means of small pieces of cork placed along it at intervals. If no fish are to be seen, breadcrumbs are scattered about, which may or may not bring them up to feed. When the whereabouts of the mullet are thus determined, the line is laid along the surface, the angler being in a boat, and more breadcrumbs are sprinkled around it with a lavish hand. The boat retires, the fish reappear, and if they have been educated up to buns, will surely be caught.

The object of having hair line is to obviate the rod. It is far easier to play a fish on a hair line, because of its elasticity, than on one made of hemp. A somewhat similar plan can be carried out by means of a rod and an ordinary undressed silk line well soaked in vaseline. This will float for a long time on the surface, particularly if a few small pieces of cork are used to increase its buoyancy.

I once saw a man fishing for and catching grey mullet from Dover Pier by means of a somewhat similar tackle. His line was of twisted silk; just such a one as is used on the river Trent for chub, but perhaps a little thicker. At the end of it was a three-yard cast, such as we should use for lake trout; at the end of the cast was a small hook, while at intervals of three feet were two droppers. The arrangement was, in fact, just like a fly cast made up for stream fishing, bare hooks being substituted for flies. But in addition, between the hooks, there were small fragments of cork which kept the arrangement from sinking. The end hook was baited with that slimy green weed which is found in harbours growing on the piles. The two droppers were covered with bread paste. The day was calm, which is the most favourable condition for mullet fishing, and the fish were now and again visible. The tackle was very carefully cast above the fish, and some breadcrumbs were sprinkled over the water. The line was worked very skilfully, and several fish of no great size were caught while I looked on.

In mullet fishing the element of individual skill comes very much to the fore. The tackle may be right and the bait may

be right, but unless the angler can place the bait in a natural manner before the fish, he will have but poor sport. For instance, it is no use making clumsy casts and splashing down corks and baits on the top of the water, nor jerking the rod to get out line, thus making an inanimate piece of paste or macaroni jump about as if it were alive, in the most unnatural way. Except in the case of voracious fish, it is always desirable to make the bait look and act, if I may use the expression, as naturally as possible.

Mr. Senior in a later chapter describes the most artistic method of mullet fishing carried on at Nice by local anglers who wade in and, with a careful sweep of the rod, cast their lightly buoyed tackle beyond the waves. At San Sebastian somewhat similar gear is used, baited with small squares of salted tunny; a favourite local ground bait consisting of chopped heads of sardines, potatoes, and clay squeezed up into balls. One of the Mediterranean pastes for mullet fishing is made from fresh roll mixed with pounded sardines or anchovies. As marine ichthyologists hold the opinion that the sardine is identical with our pilchard, this latter fish could, no doubt, be used in the same way. I have heard of officers stationed at Gibraltar, unable to catch fish by any other means, setting small trimmers for mullet and baiting them with paste, and ground baiting or surface baiting the sea all around with a mixture of breadcrumbs and water.

With regard to paste, that made from bread is better than the common flour paste. A piece as large as a pea will often suffice, unless, of course, there are fish of from six pounds upwards about. In the Channel Islands the chervin ground bait (see p. 123) is used. Few ground baits are more attractive than pilchard guts, and pounded green crab should never be forgotten. A large number of different hook baits have been recommended, including shrimps and prawns, both boiled and unboiled, but always peeled, pilchard guts, live ragworms, cabbage, silkweed, wasp grubs, fat pork, tripe, and gentles. An enormous mullet of about 12 lbs. or 13 lbs. was hooked by a

bass fisher at Tenby, who was baiting with ray's liver ; the fish immediately ran out every inch of line, and then broke a strong, treble-plaited gut trace.

Generally speaking, mullet are caught more easily in salt water than in the brackish water of estuaries, and the best of all times to begin fishing is an hour before daybreak, if the tide suits. Of course, in places where the tide runs strongly we have to fish according to circumstances ; but wherever mullet are found unapproachable in the daytime, very early morning fishing should be tried.

The little there is to be written concerning fly fishing for mullet will be found on page 158.

To any who would condemn sea fishing on account of the ease with which the quarry are captured, may I respectfully suggest a short course of mullet or big bass fishing?

The POLLACK, of all the members of the *Gadidæ* or Cod family, is, from a sportsman's point of view, by far the most important. When first caught it is a very beautiful fish ; its back of dark green bronze, lightening towards the sides, where it is marked with gold, the belly being nearly white. Soon after death, however, its back darkens, its lower portions become a dirty white, and the beautiful brown eyes get quickly glazed over. In shape it closely resembles the coalfish, but anyone who has once seen the two side by side will never mistake them, the coalfish having a bluish-black back and none of the golden brown colour of the pollack. Moreover, the coalfish has depending from its lower jaw a rudimentary barbule, while the pollack has none. As there are instances on record of fish having been caught which appeared to be hybrids between *Gadus pollachius* and *Gadus carbonarius* (coalfish); it is quite possible that the angler may at times be puzzled to determine the exact species of his capture.

The size of the pollack seems to depend very much upon locality. On many parts of our South coast one of 4 lbs. would be regarded as large, while at other places a five-pounder would be deemed a fish of no importance. Those I have caught on

the north-west coast of Scotland ran from 4 lbs. to 11 lbs. in weight. Couch stated that he had a specimen weighing 24 lbs., and there is Lord St. Levan's Land's End fish of about the same weight. A friend tells me, however, that he has occasionally heard of fish weighing 30 lbs. to 35 lbs. : these are certainly very rare.

On the West coast of Scotland and off the Isle of Man pollack are, rightly or wrongly, supposed to follow the herrings, keeping at some distance seaward until the autumn, when their prey comes inshore and enters the sea lochs. When the herrings depart, the pollack follow, and pass the winter in deep water—such is the belief of the fishermen. The only reason to doubt this is that we cannot see beneath the surface, and it may be that the fish only take a bait well when herrings, &c. are about. The probability is that the smaller and more active school pollack follow the herrings, mackerel, &c., while the larger fish always haunt their fastnesses off headlands and rocky places generally.

Pollack are believed to spawn between Christmas and the early spring, the exact period probably differing, as it does with most fish, according to the locality.

Mr. Mathias Dunn, of Mevagissey, has placed on record an interesting account of porpoises attacking both the young and full-grown pollack. Some Mevagissey fishermen saw a battle of the kind taking place, and on putting about and sailing up to the spot, found that over thirty large pollack in a more or less moribund condition were floating on the sea.

There are very few places on our coasts where pollack are altogether wanting, but in apparently suitable localities they are occasionally very scarce. Small and medium sized fish are found in great quantities on the Devonshire coast, growing larger as we reach Land's End. So far as I know the best sport of all with pollack is obtained on the coasts of Scotland and Ireland, where, the fish not being very saleable, they are not sought after by the professional fishermen, and are, in consequence, very plentiful.

I rather incline to the opinion that pollack fishing is very easily overdone, and fishing grounds—more particularly those skirting headlands and outlying islands—more or less depopulated, at any rate for a time. When fishing is carried on over large submerged reefs of rocks, and generally in fairly deep water, the fish may be both scattered and plentiful, and no appreciable harm will result from the angler's attacks. But if you take a number of small channels between islands—little pieces of water which are almost like rivers and ponds—in a week's fishing most of the largest pollack will be thinned out, and the place may feel the effect of the attack for a considerable period. The same may be said of a solitary headland, a resort for pollack along miles of otherwise barren coast. I have seen several instances of spoilt pollack grounds ; take, for example, the end of Filey Brigg. At one time this spot had a reputation for large pollack, but now very few are caught there, the constant whiffing to and fro across the end of the Brigg having, it seems, thinned out the fish.

I once spent a few days at Scourie, on the west coast of Sutherlandshire (people go there to visit the island of Handa), and did a good deal of whiffing for pollack. I fished there for a whole day, catching only one lythe, as these fish are termed in Scotland. In the evening our man confessed that there were 'no many lythe' thereabouts. There used to be plenty, but he thought most of them had been caught. If we—a friend and I—would go a couple of miles down the coast we should do much better. So we forthwith set sail, arrived at the spot in question, and left our boat in a sheltered bay for the night. We walked over there the next morning and had some very fine sport.

The wanderings of sea fish are so mysterious and uncertain that I may be utterly wrong in my surmises ; but, in any event, there is no particular object in slaughtering these fine sporting fish by hundredweights. When forty or fifty pounds of pollack have been brought into the boat the rest might very well be returned. Unfortunately, these fish do not keep well, and,

therefore, if a great quantity are caught they are as likely as not to be wasted. In fact, they are only fairly good eating on the day of capture, but superior to coalfish. They are greatly improved by being crimped as soon as caught, and make by no means despicable kippers.

The pollack does not possess so many local names as the coalfish, but is fairly well supplied in that respect. On many parts of the English coast he is always termed the *whiting pollack*, and the great North-country and Scotch name for him is *lythe*. Other local names are *leeat*, *leet*, *laithe*, *skeet*, *greenling*, and *greenfish*.

The pollack is essentially a rock fish, loving a free run of water, and frequenting the shallows rather than the deeps. I have caught large lythe in only four or five feet of water, and in the evening known them leap up into the air after a bright spinning bait as it was being drawn into the boat which had just passed over them. In the daytime they very much resemble pike, lying hidden among seaweed, ready to pounce out upon any passing prawn or fish, but rarely troubling to come to midwater or to the surface. Thus it has often been said that pollack fishing in the daytime is a useless proceeding, the fact being that the anglers have been at fault in not sinking their baits to bring them within sight of the quarry. I am not speaking of small fish, but of the large lythe one finds in the north of Britain. Small fish of one to four pounds are often very plentiful in fairly deep water where the bottom is rocky, perhaps congregating together in some little basin among the rocks, or other favourite place. There ragworm or live shrimp fished near the bottom would probably be successful. When such a spot is discovered, the marks should be very carefully taken.

A friend whose veracity is beyond question tells me that once when leaning over the boat and looking down through the clear, smooth water, he saw a strange sight. A pollack of 6 lbs. rose from the bottom and seized and absorbed a rubber eel which was hanging motionless from the boat. The day

was sunny, which makes the incident the more remarkable.

The various methods of pollack fishing have already been described in previous chapters. Amongst others there is drift lining with live sand-eels, whiffing with dead ones on natural or artificial spinning baits, and fly fishing or whiffing with large sea flies. There is no absolute rule in the matter of pollack baits, the fish having what I may term local appetites. But the two which stand first and foremost are sand-eels—alive for preference—and a very young sea or freshwater eel. Almost, if not quite, as good are any small fish of elongated shape, such as the gunnel, variously known as butterfish and swordick of Orkney and the nine eyes of Cornwall. For moderate-sized pollack there are few more deadly baits than the large ragworm, which, on that account, is termed on some parts of our coast the pollack worm. Of artificial baits there are few better than a red rubber eel, sole-skin baits, and the red phantom. Often more successful than the foregoing are the feather baits mentioned in Chapter IV. They are sometimes found more effective in the daytime than the rubber eels.

The best pollacking is enjoyed during the early autumn, but a quantity of small fish are caught during the summer. On the coast of Devonshire thousands of small pollack are taken on whiffing lines in the early spring. A large number of baits (see Belgian Grub, p. 127) are used, and often several small fish are hauled in at once. About pierheads and such-like places there frequently lurk a few pollack, and those who would catch them must rise early, before the water has been disturbed by boats, steamers, and paternosters, and let a single hook baited with a live pollack worm hooked through the head —the line being weighted with a half-ounce pipe lead—down among the fish, which, if not feeding very bravely, will often be tempted, particularly if a slight sink and draw motion is given to the bait. A few pollack are caught from Deal Pier in this manner during the early spring and summer.

When pilchards or any other fish or marine creatures on

which pollack feed are very abundant, the artificial bait sometimes fails ; then the angler should study as far as possible to fall in with the passing fancy of the fish. A six-inch strip of pilchard-skin together with a smaller piece of mackerel-skin is often used as a bait on the Cornish coast. Three inches of gurnard-skin is a good whiffing bait. Where the fish run very large, large baits must be used. I have known success attend the use of indiarubber eels, made by an amateur out of a piece of black rubber tubing, double as thick and double as long as the baits ordinarily sold in the tackle shops. The hooks on which these indiarubber eels are mounted are tinned, and very apt to be rather blunt ; indeed, when fishing in the daytime close to the bottom the hooks are likely to come in frequent contact with the rocks and so get their points smashed. It is very desirable, therefore, to carry either a watchmaker's file or a roughish quick-biting hone for renewing the point. Sharp hooks are of the first importance in sea fishing.

May I again remind the tiro that the pollack is a powerful fish and requires very strong tackle, and that this is particularly the case in water of moderate depth where the bottom is rocky and weedy, for headlong will the fish go into his submarine fastnesses unless firmly held. There must be no yielding to a pollack in his first rush, except in some places where the bottom is fairly free from seaweed or the depth of water is considerable.

The COALFISH, a fine sporting fish, is remarkable for the extraordinary number of aliases under which he passes. Ichthyologists have given him various Latin names, but these fade into insignificance before the remarkable titles by which he is known on different parts of our coast. He is probably called coalfish on account of the nearly black colour of his back, which, however, in some places is a dark green. He is the *saithe* of Scotland ; in Cornwall they call him the *rauning*, or *ravenous pollack* ; while the commonest name for him on the Yorkshire coast is *parr* in childhood, and *billet* in middle age. *Coalsey*, *coal whiting*, and *black pollack* are also common names,

and those who have visited the north-west coast of Ireland, and are taken out *glissaun* fishing, will recognise in their captures the *billet* of Scarborough. The Irish fishermen, by the way, have a theory which is very likely founded on fact, that when a glissaun or coalfish is hooked and is drawn through the water, its comrades follow it, regarding it as the leader of the shoal. Two lines, and often more, are used, depending from long bamboo rods, the bait being a rough wool-bodied fly. When a fish is hooked it is not drawn in until a second glissaun has taken a fly. Then one line is hauled in, and the other, with the unfortunate fish struggling at the end, left out for the shoal to follow. The sport, while it lasts, is fast and furious, and there is no difficulty in keeping a fish out on one of the lines. Mackerel fishermen have much the same idea. When fishing in fresh water I have often seen several fish follow one I had hooked and was bringing to the surface. Chub, perch, and sometimes roach will do this. Once a chub, hooked some fifteen yards from my punt, was followed in every turn and movement by another of about the same size which swam close to its side, and did not leave it until the landing net was about to be used. There are similar instances on record in the case of trout and, I think, salmon, in which both fish have been netted.

The late Dr. Day collected a number of local names for coalfish, from which I complete my incomplete list. *Sillocks* (Scotland); *blue-backs* (Yorkshire); also *baddock*, *bil*, *billiard*, *black pollack*, *black jack*, *bleck*, *coalsey*, *coal whiting*, *colemie*, *colmey*, *cooth*, *cuddy*, *dargie*, *gilpin*, *glassock*, *glashan*, *glossan*, *glossin*, *green cod*, *green pollack*, *gull-fish*, *harbine*, *kuth*, *lob*, *lob-keeling*, *moulrush*, *piltock*, *podlie*, *podling*, *prinkle*, *rock-salmon*, *saithe*, *sethe*, *sey-pollack*, *skrae-fish*, *stenlock*, and *tibrie*. The fry are variously termed *soil*, *poodler*, *billets*, or *billiards*, up to one year; also *cuddies*, *saithes*, *coalman*, *saidhean*, or *suyeen* (Moray Firth), *gerrocks* (Banff), and *herring-hake* (Aberdeen). In County Down the fry are *gilpins*, next size *blockan*, then *gray-lord*, and adults *glashan*. In some localities the young are

*cudden*, *pickey*, and *glassin*. At Portrush the following names are given according to the age of the fish : *cadan* (pr. *cudden*), *ceithnach* (pr. *catenach*), *glasan* (pr. *glashin*), and, when full-grown, *gray-lord*.

The name *cuddy* is, so far as my experience goes, commonly applied to the young of both pollack and coalfish in Scotland, but is, perhaps, more strictly the property of the young of the saithe. These little fish give rare sport to the fly fisher on a warm August evening, as I have described on p. 153. They sometimes come very short to the fly which, if fish skin, may have its holding powers improved by the addition of a small triangle just beyond its tail.

Coalfish are found on all our coasts, but are, perhaps, most plentiful off Yorkshire, in the north of Scotland, and all round Ireland. They are sometimes taken in the Downs by the whiting and cod fishermen. The coasts they appear to favour are steep and rocky, and when they come close inshore in the evening on the top of the tide, chasing sand-eels or the herring fry, they give grand sport indeed to the man who can cast a straight line and can play a fish.

Though found close to the shore, they like not such shallow waters as are frequented by pollack, the largest fish being taken in several fathoms of water on the edge of a tide-way. It is, as a rule, when feeding on the fry of other fish that they come close to the surface. At other times they hunt in shoals along the bottom in search of food, and may be caught on any ordinary bottom-fishing tackle. I have made several good bags of them on the Yorkshire coast when paternostering for cod, using mussels as bait. Coalfish spawn in the spring, and by August attain the cuddy size of about four or five inches, when little bare-legged youngsters sit on projecting rocks and catch dozens of them.

I have a lively recollection of initiating some ladies into this small form of sea fishing, one stormy day in the Lews. An immense trap dyke runs for some distance into the land, exhibiting on the coast a sheer wall of rock between two and

three hundred feet high, which trends in gigantic steps down to the water. On one of these steps, in shelter of the rocks rising abruptly behind us, we sat in mackintoshes and cared little for a south-west gale which sprang up.

We began about low water, and then the little fish would only feed near the bottom. Our hooks were of the smallest, baited with fragments of the dwarfed mussels growing almost at hand among the crevices. As the tide rose, the fish came gradually nearer the surface, until, at the full flood, they were feeding within a foot of our little cork floats. The rain ceased, but the wind blew harder than ever, and I shall never forget our walk back to the lodge along the top of the cliffs. The whole country was running water, and every few yards small streams were pouring over the edge of the cliffs. But these hastily improvised waterfalls had not dropped a fathom before the wind caught them and hurled them back on to the moor, deluging us with the drainings of the land. However, home we brought our cuddies dead—eleven dozen of them—and delicate eating they proved that night at dinner. The following day they were soft and watery.

A friend living in the islands still further north caught no fewer than two hundred score of cuddies in one winter; but these were fish varying from three-quarters of a pound to one and a half pound. In Orkney there is a spring run of coalfish which go from ten to twenty pounds in weight, large numbers of which are caught by the fishermen, who trail small eels. Both in the Orkneys and Shetlands the liver is cut out for oil, the rest of the fish being often thrown away or used for manure. I believe there is an oily extract from the liver which is of service in tanning.

As food the coalfish is certainly inferior to the pollack, having a peculiar flavour of its own which is not altogether pleasant, and lies, I imagine, in the skin. This can, however, be overcome by judicious manipulation in the culinary department. An excellent way of dealing with a large catch of these fish is to have them kippered. I made the experiment some

years ago, and the result was a success in every way. In fact, there is hardly a fish in the sea which cannot be treated in this manner. A kippered codling is certainly much better eating than the same fish plain boiled. Kippered mackerel, too, is a most estimable creation of civilisation. But it is, alack! a thing to be eaten with caution, not to say fear, for the mackerel being a bad-keeping fish, it frequently happens that the unscrupulous fishermen, if unable to dispose of their take at a fair profit, sometimes hurry their two-days-old fish into the smoke house and produce an article which, though tasting well enough, is apt to work ill on those who eat of it. An imperceptible but very dangerous decomposition originates in the mackerel not very long after it has been caught. Beware of those which are dull as to their gills on the fishmonger's slab, or weedy as to their brown flesh when on the table.

But to return to *gadus alias*, which is as appropriate a term for him as any of those conferred by Linnæus, Pennant, Couch, Yarrell, and the rest. As the coalfish feeds on the surface, in midwater, and on the bottom, there is hardly a method of fishing described in previous chapters which will not suffice to take him; but the best sport of all is certainly to be obtained with the fly rod when he is feeding near the surface. He rises savagely at the fly, like a fresh-run sea trout as yet in ignorance of the wiles of the angler, and if there is a big shoal of them, should one by any accident miss, another will take his place before the fly is lifted from the water. These fish are grand swimmers and full of pluck, and play gamely from first to last.

The very strong tackle necessary for pollack is hardly required for coalfish, for they can be played in orthodox fashion; but there must be abundance of line on the reel, as a provision against conflicts with large fish. Whiffing you may take them; paternostering you may take them; and they pick up a bait lying on the bottom. But a mussel, or piece of fish skin, or lugworm, will be infinitely more attractive if moved through the water. If there is a slight bobble of the sea and we are fishing

from a boat, it is best not to let the lead rest on the bottom, but to wind it up a foot or two, which will cause the baits to dance up and down and keep time with the motion of the boat. When these fish are met with, the angler should make the most of his time, for the shoal may not stop under the boat or close to the rocks more than half an hour. While there they will be caught as fast as the line can be cast in, the fish played and unhooked, unless the angler is a bungler. On the whole, I am almost inclined to say that *gadus alias* ranks higher as a sporting fish even than the pollack, though the latter takes precedence in this chapter as being more frequently sought after, and better known to sea fishermen.

SALMON and SEA TROUT are such undoubted *sea* fishes, coming into fresh water for breeding purposes, and possibly—in the case of salmon in very large rivers early in the year—for protection from seals, porpoises, and other enemies, that it seems right they should have a place in this volume. In dealing with the subject of fly fishing in the sea I have already mentioned a few places at which they have been caught in salt water. As a general rule salmon are too scattered to afford much sport. Compared with other sea fish, they are certainly scarce, and, all things considered, this is not surprising. Where they of necessity collect and are wedged up together, as in Loch Roag, Island of Lewis, a very long and narrow inlet, the angler has his finest opportunity. But in the broad mouths of great rivers the fisherman may toil all day and perhaps not present his fly to a single fish.

In America and Canada enormous runs of salmon occur, the fish being swept up by means of revolving traps arranged something after the fashion of a watermill wheel, thence turned down a trough, knocked on the head, and ultimately canned. The fish are in such enormous numbers as to afford very fine sport at the mouths of these fruitful rivers, particularly in Vancouver, where quantities are caught on spoons and similar baits both by sportsmen and the Indians. There, I take it, the sport results mainly from the quantity of the fish

and their concentration in one particular part of the sea. If it should ever happen that, thanks to wiser laws than at present exist, coupled with their proper enforcement, our rivers should be freed from pollution and restocked by means of fish culture, then, I imagine, there would be many more places in which the sea angler might have an opportunity of plying his art on the king of anadromous fishes.

I should, however, mention here that on many rocks there is a tradition that salmon will not rise in the tidal pools, refusing the fly until they have reached fresh water. Sea trout, on the other hand, rise freely in brackish water.

SEA TROUT appear to hang about the coastline all through the summer, lying close to the rocks in the shelter of overhanging weeds, and may be caught in two to four feet of water. They are, too, far more plentiful than salmon. If in considerable numbers, they are, perhaps, best fished for in many places from the shore, the fly, or worm, or spinning bait being cast just over the edge of the weeds. An excellent bait, too, for the purpose is that cut out of a piece of sole-skin (p. 126). If, on the other hand, the fish are scarce, and it is necessary to trail a long distance to make sure of the bait being presented to a sufficient number, then, of course, a boat must be used. Such fishing, trolling, trailing, or spinning, as you please to call it, is carried on extensively in the kyles of Durness and Tongue with natural sand-eels or other bright spinning baits, natural or artificial. Very large sea trout are caught in this way, the tackle being much the same as would be used in fresh water. The amount of lead should be varied according to the force of the current and depth of the water; but just enough to keep the line from kinking, a quarter of an ounce or a little more, is as a rule sufficient, as the sea trout generally feed close to the surface. If the water be thickened by storms or flood water from rivers, then more lead should be used and the bait fished near the bottom. The lightest possible anti-kinking lead is shown in the illustration on p. 238. Note that the lead wire is placed *above* the swivels.

Some years ago naturalists supposed that there were several species of trout. Now, owing to the observations of fish culturists, who by keeping fish in their ponds have reduced this branch of ichthyology to a more or less exact science, the better opinion seems to be that there is but one trout, which is subject to variations in its appearance according to local surroundings, food, sex, and age. If it be rightly assumed that the fish in Loch Leven were originally sea trout which subsequently became landlocked, there is apparently no difference between a sea trout and the common brown trout of our rivers. In Loch Leven these fish certainly have an appearance somewhat suggestive of sea trout; but in other waters they so change their appearance as to become indistinguishable from common brown trout. Here, then, we have sea trout, if my first presumption be correct, changing into rather remarkable loch trout and, when bred in the fish culturists' ponds, developing into ordinary fario. Assuming we are correct so far, the very interesting question arises whether the sea trout is a river trout which has left fresh water to seek the more abundant food supplies of the ocean, or the river trout is a sea trout which has pushed into fresh water to spawn and has taken up its abode in rivers? Brown trout, sea trout, and salmon are evidently closely allied.

In the Antipodes the statement has many times gone forth that salmon have at last been acclimatised and been caught. The fact so far seems to be that the Antipodean salmon are ordinary brown trout which have left the rivers, taken to marine habits, and put on the silvery coat of the salmon or sea trout. A number of New Zealand trout recently were sent to Mr. Bambridge, of Eton, in a frozen condition by Mr. A. H. Strong, of Ashburton, New Zealand, with the following communication:

I have taken them in the *salt water*, and landed them in the breakers. All the fish taken at the mouth of the river are as white as silver, and the spots come out and show only after death. Higher up the river the fish are freely spotted and darker. The flesh varies from white to cream colour; but I have had trout from

Lake Heron very deeply spotted, and with the flesh deep orange—not pink like char and salmon. There is no doubt that the trout go to sea, as they are caught in nets outside, and miles from the river. The strangest thing about these trout is that, although several varieties have been put into the river, we never seem to take any other variety than those I sent. I have put over 15,000 *Salmo fontinalis* in the main rivers; but no one has ever taken one out, though when put into a small stream by themselves, they do well and grow to three or four pounds weight. They are then splendid fish and very game.

In British waters we have trout acting in just the same way, though not growing to the same size, and there is not much doubt that the ordinary brown trout and sea trout sometimes breed together, producing fish which are neither one nor the other. In the chapter on Fly Fishing I have referred to the slob trout of the Shannon and other Irish rivers. These estuary trout have received the attention of naturalists for many years. Knox, in his 'Lone Glens of Scotland,' published in 1854, refers to some taken at the mouth of the Nith, and also recorded fish of the same variety in the Kyle of Bute, Loch Fyne, the Forth, and the Yorkshire Esk. Dr. Günther describes specimens coming from Galway. Dr. Day, in 'British and Irish Fishes,' mentions them as common at Waterford. At Portrush, in Ireland, they are known as dolachan. These fish very frequently retain their red spots, and their river markings can be traced through the silver sheen. I have caught a good many in a tributary of the Shannon. In Norway it is a common thing to catch brown trout in the fjords a considerable distance from the river's mouth.

MACKEREL.—The mere name recalls pleasant visions of rippling waters flecked with white, of sunny skies, and the healthy, salt, sea breeze whistling through the rigging; of a pile of little silver billets, two or three still quivering in the throes of death, and of a weather-beaten man with genial face who gently encourages us to continue hauling in those two-pound leads, breaking backs none the less. There are three hundred mackerel lying on the floor of the lugger, which means that we

MACKERELLING—'RIPPLING WATERS FLECKED WITH WHITE'

have hauled in our lines three hundred or more times. No! friend, we have come for pleasure, not for toil. If you would add to the catch, take the lines yourself while we recline in the stern sheets and smoke, and hold that tiller smoothed by hardened hands on many a voyage.

Everyone is acquainted with the appearance and taste of the mackerel, but few would be the wiser for the telling that of branchiostegals it has seven, that pseudobranchiæ are present, that the air bladder when present is simple, and that pyloric appendages are numerous. He is a fish of brilliant colours, marvellous activity, and when fresh caught is most beautiful. *Scomber scomber* is his most approved classic title, but naturalists have several names for him, some asserting that there are several species, others that, as with trout, there are simply certain differences of appearance of no fixed character, all the mackerels being in fact one and the same fish.

The only local names for mackerel which I have come across are the terms *joey* for the shoals of immature fish a few inches in length which appear in the Bristol Channel in September; *shiners*, a name used off the West coast; and *harvest mackerel*, large fish caught at end of summer. The great majority of mackerel in the Bristol Channel appear to be immature, but are not so small as the *joeys* which weigh half a pound or thereabouts. Round about the rocks will be found fish three or four times as large; but these are coarse and poor eating, while the half-pounders are particularly delicate.

Some of the finest mackerel come from Ireland. There the nets sometimes secure from 15,000 to 30,000 fish per boat. On many parts of the East coast of England large numbers of mackerel are caught by means of nets. Lines are not much used, the fishermen declaring that the water is too thick for the fish to see the bait; but whether this view be correct or not I have never had an opportunity of testing.

On all our coasts this useful fish is more or less abundant, and is widely distributed over the more temperate portions of the world. Some of the best are caught in the English

Channel ; some of the worst, from an edible point of view, in the Mediterranean. As a matter of fact, we know very little about the wanderings of the great shoals of mackerel, beyond the fact that in winter they stand far out to sea, and in summer come close inshore. For years they may apparently forsake one portion of the coast and then return to it again in undiminished numbers. Such changes are possibly in consequence of the natural food supply having diminished ; as soon as it has regained its former condition the fish return. One of the earliest places at which mackerel are found inshore is Plymouth, the local boats sometimes taking them in February or March. But for our purpose they are a summer fish, and admirably serve to while away the time at many a seaside resort, the resources of which, natural and artificial, are soon exhausted.

Among the many reasons for which we should regard the mackerel with especial favour is the fact that they are, in their small way, tending to increase the wealth of an impoverished country, Ireland to wit. I see from the Fishery Reports that in 1893, 467,560 barrels of mackerel, valued at 152,512*l.*, were caught on the Irish coasts, principally west and south ; and over 51,000 barrels of Irish mackerel were cured and sent to America. Pickled mackerel is to the New Yorker what salted herring is to the German ; and by the late failure of the American mackerel fishery Ireland has been greatly benefited. I am glad to say that the development of the West coast fisheries continues, thanks in a great measure to the active endeavours of the Congested Districts Board. In 1893, 6,579 vessels and boats, manned by 24,001 men and 1,215 boys, took part in the fisheries, showing an increase of 208 vessels since the previous year ; 730 more men and 240 more boys having become engaged in this work. We even find eleven Irish boats from Wicklow attending the Scotch herring fishery, a piece of enterprise which it is to be hoped was well rewarded.

Talking of enterprise, when the American mackerel fisheries failed, a fishing schooner from Gloucester, Massachusetts, sailed

right away to Norway in hopes of making a haul of those very large and handsome Norwegian mackerel which in America fetch a high price. Owing to bad weather, only fifty-nine barrels of fish were captured. The return voyage, a distance of 4,400 miles, was made in twenty-two days. American fishermen have even visited the coast of Africa in search of mackerel!

There are some very tall stories related by old writers about mackerel. According to Ælian, the fishermen of his time used to train them to act as decoys, just as a little dog is trained to lead wild ducks into the hoop nets of the wildfowler. These remarkable fish would head a shoal and lead it into the nets which were ready spread. More than this, the progeny of these decoy scombers inherited the same remarkable powers. Then there is another story of a Norwegian sailor who went bathing, when a shoal of hungry mackerel surrounded, and nibbled and worried until by gentle persistence they worked him some distance out to sea. Assistance came in the shape of men in a boat, but it was with some difficulty the poor fellow was lifted on board, and he was in such a state of exhaustion from loss of blood that he soon died!

Another charming story, of the nature of so many found in popular natural histories, was once told by Lacépède, who quoted Admiral Pleville-Lepley as his authority. On the coast of Greenland are certain shallow bays which are almost land-locked. The water is clear, and the bottom of mud. There, throughout the winter, thousands of mackerel might be seen with their heads stuck in the mud and their tails pointing skywards! As might be supposed, when they first resumed the vertical position at the advent of summer, their eyesight was affected, and they were netted without difficulty; later on they were caught with hooks and lines. I love these old stories which writer after writer repeats so carefully, each with some little touches and additions of his own, just to give 'an air of verisimilitude to a bald and otherwise unattractive narrative.'

There are four methods of mackerel fishing. The largest catches are usually made by means of drift nets which are simply walls of netting, buoyed on one side, that drift with the tide during the night. The mackerel run against them, push their heads through the mesh, and are held captured. As the fish swim near the surface, the nets are not so deep as those used for herrings, and are often very much longer, eleven or twelve nets knotted together extending, perhaps, two and a half miles.

After mackerel have spawned in the spring they quickly recover their condition and, coming nearer the shore, take a bait eagerly. Then the net fishermen, in addition to capturing them in drift nets, use the seine, and surround the shoals which are seen breaking the surface inshore, chasing the britt or sile, as the young herrings and sprats are variously termed. At night I have known them to come on the sand in only a few inches of water, probably to feed on sand-eels. I have described at an earlier page how, wading on shore one night when my boat was stranded, I walked through a shoal of mackerel which made the sea beautiful by stirring up the phosphorescence. This phosphorescence, by the way, is sometimes called by the fishermen 'marfire' (i.e. sea-fire, from *mare* or *mer*), 'brimming,' and 'waterburn.' It is not favourable to drift-line fishing, as it no doubt discloses the position of the nets. On the other hand, it is helpful to the fishermen in search of the shoals, for as the fish swim near the surface their position is distinctly visible on the darkest night. I have heard of fishermen knocking a piece of wood against the outside planks of a boat, and when they noticed numbers of fish darting away, making a trail of light as they went, the nets would be shot.

Of line fishing there are three kinds: first, railing, whiffing, trailing, or plummeting, as it is variously called; and much difference of opinion exists among fishermen as to the best gear to use for the purpose. I have illustrated and explained the different forms of tackle on pages 252 to 256. Though the ideas of fishermen vary considerably on the subject, there

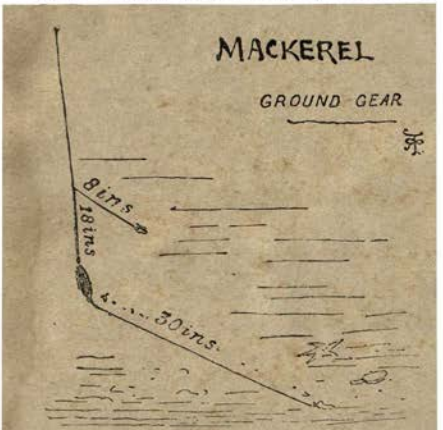
is little to choose between the various gear, except that some tow more steadily than others.

The bait of baits is undoubtedly the laske, or last, which is illustrated and explained on p. 97. Those who indulge much in mackerel fishing should provide themselves with dried gurnard or sole skin, to use as temporary laskes until a fish has been caught. A bait which is sometimes used with success when nothing better is forthcoming is a piece of tobacco pipe. Next the hook should always be two or three yards of gut, medium or stout according to the run of the fish, and the heavier and more clumsy the lead, the more distant from it should be the bait—in other words, the longer should be the snood. I need only add that for small mackerel the small hook shown on p. 238 should be used, while for larger fish the larger of the two will be better. These seem large hooks for so small fish, but the mackerel has a very big mouth, and the longer shank is a great advantage in enabling the fisherman to unhook the fish quickly.

The management of the boat is, of course, important. In the first place, it must be taken to the right fishing grounds; and, secondly, it should be sailed at the right speed, which can be effected by carefully trimming the sails. The best time of the day for fishing is from daybreak till about twelve o'clock. If the wind is very light and the water clear, fish can be caught on very fine tackle when they will not look at the ordinary gear used by the fishermen. Under such circumstances the speed will be low and a very light lead should be used. Whether such heavy leads as are commonly used are really required I very much doubt. One summer, at Tenby, I fished persistently with a lead of about three ounces, while the fishermen kept to their two-pounders. I caught about twenty-five per cent. more fish than they did and with considerably less labour. It can hardly be doubted that the very large leads towed through the water tend to scare the fish.

The two remaining methods of fishing are from a boat at anchor. Off Scarborough and other places a fair number of

mackerel are caught by means of an unleaded line terminated with a single gut snooding and a hook baited with the laske. The bait simply drifts out with the tide, and the bites of the fish are easily felt. The boat is usually moored on the edge of a big eddy just off the run of the tide. This is one of those methods which have been carried on successfully with the rod, and very pretty fishing it is when the mackerel are biting freely. I rather improved on this plan by adding a float and a half-ounce lead to the tackle and letting it out with the tide, and have caught a good many mackerel in this way. The float enables one to see exactly where the bait is. To search the water thoroughly the pipe lead should be placed three feet from the hook, and the float, which is such a one as we should use in jack fishing (see p. 182), two feet above the pipe lead. For the running tackle there is nothing better than an undressed Nottingham silk pike line, such as I have recommended for fishing on the bottom.



TACKLE FOR FISHING FOR MACKEREL ON OR NEAR THE BOTTOM

About the end of summer mackerel begin to feed a good deal inshore, on the bottom, where they are caught on ordinary hand lines or with the paternoster tackle described on p. 218. A very good tackle for the purpose consists of the arrangement just described, minus the float, but the lead must be of sufficient weight to nearly hold the bottom. There may be two hooks, one at the end of the snood below the lead, the other attached to the line by means of an eight-inch piece of gut a foot above the lead. This fishing requires a good deal of skill,

for the fish bite shyly and have to be struck at the slightest nibble. It is a great advantage to use a rod. Among good baits may be mentioned a very small sand-eel or half a large one, the hook being placed in at the mouth and the point brought out half an inch below the gills; and mussels. On the Devonshire coast pilchard guts have been found an excellent bait, and a favourite plan is to cover the shank of the hook with a small piece of squid and put on the point of it either some pilchard guts or a small strip cut from the side of a pilchard. The lead should be lowered until bottom is felt, and raised about two yards. The professional gear for this method of fishing on the coast of Devon consists of a boat-shape lead with wire through it, and six feet of fine snooding. A favourite bait consists of a strip of very fine pilchard-skin, one and a half inch long by a quarter-inch wide, and an almost equally thin strip of squid about the same size. The two are just caught on the hook and are worked up and down, to give them an appearance of life, just above the bottom. This fishing ends about the beginning of October.

Off the Channel Islands ground fishing for mackerel is carried on a good deal at night. I have not used ground bait for these fish, but have not the slightest doubt it would conduce to a good catch. In America the mackerel fishermen have mills in which they grind up herrings for the purpose. Having attracted a large number of mackerel, they lower a bright metal fish which is well armed with hooks and then jig it about; the mackerel rush to it and are foul-hooked.

When sport is not obtained either by whiffing or fishing near the bottom, various depths should be tried, for mackerel exhibit great susceptibility to changes of temperature, both as to their migrations and the depths at which they feed.

This concludes nearly all I think need be said about this admirable fish. When the mackerel are biting very shyly and the hook is being constantly robbed, I would suggest—and it is a mere suggestion, for I have not tried it—using Stewart tackle made up with large hooks, the bait being a strip of pilchard and

a strip of squid cut worm-shape caught on and twisted round them. There is a two-hook tackle of this kind on p. 106. Three hooks might be better for this purpose. I have used this tackle for several kinds of bottom-feeding freshwater fish, other than trout and salmon, and found it answer extremely well, except in the case of tench, which mumble the bait and soon discover any hooks which are not well covered. Fly fishing for mackerel is referred to on p. 136.

Sometimes the plummeter will capture a fish in which the usual mackerel markings are replaced by spots such as are found on the back of a loch trout. This is merely a variety, *Scomber punctatus*, or spotted mackerel. There is also *Scomber colias*, the coly or Spanish mackerel, the latter name being the least desirable, as it is also applied to the tunny, and confusion engendered. This fish is not common in British waters. It may be instantly known by the eye, which is twice or three times the size of a common mackerel's.

The HORSE MACKEREL or SCAD is, according to naturalists, not a mackerel at all, but a member of the *Carangidæ* family, and has none of the usual markings on its back. A glance at its back fins will suffice to distinguish it from the common mackerel. In *Scomber scomber* the two dorsal fins are set wide apart, but in the scad they almost meet, and close to its anal fin are two spinous defensive weapons which the angler should avoid with care. A striking peculiarity of this fish is a lateral line, which crosses a number of scale plates so formed that they give the fish the appearance of having an external backbone on each side. These fish, which are common off Cornwall and are found all round our coasts, are fished for in just the same way as the mackerel, and take all the usual mackerel baits. They feed best at and after dusk.

The GARFISH, often found swimming with the mackerel shoals, is one of the most curious fish of the sea. It is long, eel-shaped, with a beak almost like a snipe; the lower jaw, if jaw it can be called, projecting; the back a beautiful bluish-green, and the sides glistening with silver. This savage little

fish, *Belone vulgaris*, is classed by naturalists in the same family (*Scombresocidæ*) as the flying fish. Of names it has enough and to spare: *long-nose*, *gorebill*, *sea-needle*, *mackerel-guide*, *needle-fish*, *gar-pipe*, *horn-fish*, *guard-fish*, *green-back*, and *green-bone*. In Scotland they call it the *sword-fish*, the *green-ben*, and *green-bane*. On the east coast of Ireland it is called the *horn-eel*, *mackerel scout*, and *spearling*.

Garfish favour cold and temperate rather than tropical waters, and are found all round the British and Irish coasts, being particularly abundant off Kent, Essex, and Cornwall. They are a fish of moderate size, occasionally but very rarely reaching a length of three feet. In some places they swim in shoals, but in others are found singly. A few are nearly always mixed up with the mackerel, whose advent they are supposed to herald. Through the cold weather they live in deep water, appearing on our coasts in spring.

There are many curious instances on record of these fish having so savagely darted at their prey as to transfix them on their long snout. Several mackerel have been picked up pierced by the upper jaw of a garfish, which in some cases had broken off. In the 'Zoologist' is an account of a salmon peal (by which, I take it, is meant the sea trout of Devonshire) having been attacked by garfish. The long snout had passed completely through the thickest portion of the trout, which weighed nearly four pounds.

But sometimes the garfish itself is hunted. Mr. Dunn, of Mevagissey, tells a story of seeing one chased by a porpoise. For a hundred yards the fish and its pursuer rushed through the sea, the former continually throwing itself out of the water. When the garfish was almost overtaken, a projecting rock was providentially arrived at over which it leaped. The porpoise, on the other hand, ran its head against the stone, was more or less stunned, and gave up the pursuit. Garfish are great leapers, often springing high into the air; and I have heard of their being caught by means of a net floated on the surface of the water. In the autumn large quantities are taken

in the mackered seines. As a rule these peculiar creatures are not specially fished for by sportsmen, but numbers are caught when whiffing for mackerel, and angling with drift lines for pollack, bass, &c. They sometimes give off a very peculiar smell when first brought into the boat, and their flesh does not the more commend itself to the epicure by reason of the peculiar green bones. I have heard people say they were better than mackerel, but that is a matter of opinion. Certainly they make very good baits cut up into strips.

The SKIPPER, or SAURY, closely resembles the garfish. It is also known as *saury-pike*, *skip-jack*, *halion*, and *skopster*. The Scotch call it the *Egyptian herring*, *gosnick*, and *gowdnock*. It rarely or never exceeds eighteen inches in length, and may be distinguished from the garfish by five or six finlets which will be found between the dorsal fin and tail; there are similar finlets near the tail, on the belly. The edges of its jaws are not serrated as are those of the garfish.

Very large shoals of skippers visit the coast of Cornwall at the beginning of summer, departing in the autumn; and hundreds may sometimes be seen leaping out of the water at one time, this peculiarity no doubt giving them some of their local names. They probably do great harm to the pilchards, which they attack and sometimes transfix with their little sharp snouts. A few are sometimes caught on small baited hooks, but skippers would not be specially fished for.

The HERRING is a remarkable fish. I have often wondered why no one has written a book on him, for there is much more material for such a work than there is for a dissertation on any other of our food fishes. At the same time, I doubt if we really know more about the herring than we do of the salmon. There is a herring language peculiar to fishermen, fishcurers, and salesmen; there are herring legends; and there is a most powerful mass of fishery statistics. How many people, I wonder, know the meaning of *over-day-tart*, *matties* or *maties*, and *gut-pock herring*? *Sodger* and *soldier* we know, but what are these? *White-herring*, *green-herring*, *red-herring*, *black-*

*herring, kings and queens*—all these are terms of mystery; possibly of deep meaning. Let me say at once that an *over-day-tart* is a costermonger's phrase applied to herrings which have been kept over twenty-four hours without being salted, and have reddened considerably, owing to the extravasated blood near fins and gills. A *gut-pock* herring is a Scotch term applied to fish which have made a hearty meal and distended themselves with small crabs, &c. *Matties* or *maties*, a word possibly derived from maiden, signifies a herring which has not spawned and from which the roe is absent. Fish full of roe, on the other hand, are in Scotland termed *mazy* herrings.

As for legends, there is no end to them. According to a copy of the 'Banff Journal,' published some time in 1885, certain Buckie fishermen dressed up an unfortunate cooper in a flannel shirt with bars all about it, and wheeled him through the town on a barrel, like a cockney Guy Fawkes. The herring fisheries had been very bad, and it was supposed that this proceeding would improve them. There are even dark stories of men and women having been burnt for having cast their evil eye on the fishery and driven away the herrings. It is, by the way, a common practice for whale fishers to burn an effigy to bring luck whenever a ship has fallen in with few whales. The crew attribute their bad fortune to some unlucky person, and by burning his effigy they believe his malign influence will be overcome. Needless to say, the unlucky individual is generally the most unpopular man on board. If luck is exceedingly bad, two or three pictures or effigies are thus sacrificed. It is possible that this ancient practice arose from just such a custom as that which prevailed among the herring fishers of Banffshire, by whom it may have been introduced on board the Peterhead whalers.

In Norfolk there was a curious theory that herrings and fleas made their appearance about the same time. In 'Notes and Queries' a fisherman of Cromer was credited with the following remark: 'Lawk, sir, times is as you might look in my flannel shirt and scarce see a flea, and then there ain't but a

very few herrings ; but times that'll be right alive with them, and there's certain to be a sight of fish.'

The Manx fishermen, who are particularly superstitious, think there is great virtue in taking a dead wren to sea. The idea appears to be based on an old tradition of some sea spirit which haunted the herring fisheries and brought storms. Assuming the form of a wren it would fly away, carrying with it, let us hope, all bad weather and misfortune.

Many curious theories have been put forward with respect to the migrations of herrings, but the generally accepted opinion now is that these fish simply retire to deeper water, returning to the coast at various seasons which differ with the locality. At the same time, they appear to forsake districts and parts of the coast for years together. The periods at which they spawn are very uncertain, and, like their movements, vary with the locality. From winter to late spring is the usual time, but it is quite possible that in some places they spawn twice during the year. From 10,000 to 30,000 eggs have been counted in a single herring. These when shed, unlike the eggs of most of our food fishes, sink to the bottom of the sea and attach themselves to the seaweed, rocks, and stones. In the Baltic herrings have been known to spawn in two or three feet of brackish water.

These fish feed variously at the surface, midwater, and on the bottom, many having been caught in trawl nets. From some very interesting observations made by the Scotch Meteorological Society it was proved that the weather had an important bearing on the movements of the herrings and the success of the fishermen. When there were thunderstorms about, the catches were small. Most fish were taken when the temperature of the sea was about 55·5°.

I have included the herring within the scope of this book because of the undoubted sport they give to the fly fisher on occasions (see p. 160). The herring also takes bait, and at Peterhead, Wick, at the entrance to the Firth of Forth, and at Tarbert on the west coast, is caught on a dandy-line during the

spring. The gear is nothing more nor less than a paternoster with little booms made of whalebone or stout wire about nine inches in length. The lead varies in weight from 1½ lb. to 4 lbs. There are half a dozen to a dozen booms, each of which is simply attached at its centre by a clove hitch in the line; they are placed nine or ten inches apart. At the free end of each boom is about three inches of line terminated with a bright tinned hook. This arrangement is lowered to the bottom and then worked with a sink and draw motion. The brightness of the hooks attracts the fish. It is when the herrings are plentiful and are keeping near the bottom about or during the spawning season that this apparatus is used, those caught being usually cut up as bait for the cod lines. At night-time herrings will take a bait such as mussels, pieces of fish, &c., offered to them on any modification of the paternoster.

It is hardly meet I should say much concerning the economical side of herring fishing, but the figures are simply astounding. It has been said that during each autumn the nets in the North Sea, if joined together, would make a length of from 8,000 to 10,000 miles. On the Scotch coasts alone the annual take is over a million barrels of herrings, each barrel being worth over 1*l.* It is supposed that something like 2,000,000,000 are caught in British waters every year. Most fortunately herrings are prolific, for not only do we catch them in such enormous quantities, but all nature seems against them. There is hardly a fish in the sea larger than themselves which does not feed on them; and, hunted from below, they are harried from above by wildfowl of every description, while porpoises, sharks, seals, all take toll from the shoals. From babyhood to old age the herring swims in constant danger of its life. If this slaughter by billions continues, it will not be surprising if Nature steps in and causes the herring to spawn three times a year instead of twice, to meet the demand.

In captivity herrings have been known to sacrifice themselves. They appear to be a gay, reckless fish, dashing hither and thither, believing that the sea is wide and obstacles few.

Some herrings imbued with this idea when placed in an aquarium, ran their heads against the glass and killed themselves immediately the gas was turned out. It was found that by leaving a small jet of gas during the night this self-martyrdom was prevented. Sometimes herrings revenge themselves in a wholesale way on the fishermen by simply crowding into the nets until their weight is so great that the warp has to be cut. Once, on the East coast, about 700 nets, worth 1,300*l.*, were thus sunk by fish.

The SMELT is a name given to three different fish. In the first place, the term is used locally instead of *smolt*—the young salmon, with which we now have nothing to do. There is also the atherine, or sand smelt, which naturalists do not call a smelt at all; and lastly there is the true smelt, also called sparling (*Osmerus esperlanus*), which many people will be surprised to learn is a member of the salmon family. This, the true or cucumber smelt, has two back fins, that near the tail being *without rays* and fatty or adipose, like those borne by salmon, trout, and grayling. The atherine also has two back fins, but the one near the tail is of the ordinary kind with rays, while the back fin near the head is small, spines projecting from the edge of it like the dorsal fin of the perch. If the posterior dorsal fin of a doubtful specimen is carefully examined, there need be no difficulty in settling the question.

Everyone, I take it, knows the general appearance of these delicate silvery-looking little fish. The true smelt, when freshly caught, gives off a peculiar smell, which many people have compared with cucumber (possibly because it smells it is called the smelt). Some say that the perfume is of violets; others, again, being reminded of rushes. For my own part, I say a smelt smells of smelt and of no other smell whatever. The Germans less politely have named it the *stinkfisch*. Taylor, writing in the 'Hardwicke Society Gossip,' asserted that he had known smelts come up rivers in such vast numbers that the peculiar cucumber smell was apparent to those who walked by the water's edge.

The true smelt is scarce on our southern shores, but very numerous from the mouth of the Thames northward. Many ancient and important smelt fisheries existed on that part of the coast. In the estuaries of the Thames and Medway these little fish are plentiful; they are also caught in the Wash and Humber, and, in fact, in nearly all the tidal waters of that coast. Breydon Water, at the back of Yarmouth, is full of them in their season. They are fairly abundant in places on the West coast, and are caught in the estuaries of the Tee and Mersey, and all the rivers flowing into the Solway. Whether they are found on the Irish coast is uncertain.

Like salmon and sea trout, the true smelts push into fresh water for spawning purposes. They have been caught as high up the Thames as Teddington and Hammersmith. They spawn during the spring, and immediately after spawning are not particularly good to eat. Observers tell some curious stories of the way in which smelts on the East coast drive shoals of freshwater fish before them, as they ascend rivers. Roach and dace in large numbers are said to flee before the smelts in Norfolk waters. Something similar in relation to the dace has been noticed, or at any rate recorded, in respect of the Thames.

Smelts appear to grow very rapidly; a contributor to 'Land and Water' said that he had noticed in October ten or twelve which weighed together no more than a pound, while in March each fish would weigh four to six ounces, and a few as much as half a pound. Some of the fish caught were opened, and it was found that they had been feeding on herring fry. Their digestion must be rapid, for while those opened immediately on being caught contained the young herring, in those carried home was found nothing but digested food. Inside the herring fry taken from the smelts were small shrimps! The gastric juice of the smelt would seem to be extremely acrid, for after making these investigations the observer wiped his hands on his handkerchief and then thoughtlessly used it to blow his nose, which caused his nostrils and lips to become inflamed, and his tongue to swell in an extraordinary manner.

Smelts are easily reared in fresh water. Colonel Meynell, of Yarm in Yorkshire, kept some for four years in a pond into which no sea water flowed. A similar experiment was tried with equal success in the lake at Roselherne Manor, Knutsford, Cheshire.

The ATHERINE, unlike the true smelt, is scarce on the East coast and abundant on our southern shores. It has a little family all to itself, named by Dr. Günther *Atherinidæ*. It is a widely distributed little fish, but is not common in Scotland; and though, as I have said, rare on the East coast, is, I am assured by a careful observer, very abundant in Lowestoft Harbour. Great quantities are found in some of the Irish bays and harbours.

These little fish have some quaint local names. In the north of Ireland they are *Portaferry chickens*, *pincher* being another Irishism having the same meaning. *Sand smelt* is, perhaps, the most common name; they are also called *silver-sides* and, in Cornwall, *quid*. The atherine does not, like the true smelt, push up far into fresh water, not going, as a rule, beyond the flow of the tides. It spawns during the summer close to the shore. Probably the greater portion of the shoals retire into deep water in the winter. With regard to fishing for smelts on the surface, in midwater, and at the bottom, I have written all that is necessary on the subject on pp. 161 and 188. It will be remembered that these little fish sometimes afford sport to the fly fisher, and are caught on the most delicate of tackle. Their excellence on the table also recommends them, but, as to this, the atherine is very inferior to the cucumber smelt.

## CHAPTER XII

### FLAT-SIDED AND FLAT-BACKED FISHES

CERTAIN of the flat fish take a high place among the freaks which Nature loves to produce. Regard a fishmonger's slab and note the expression on the face of sole, dab, or flounder—the kind of paralytic twist in the mouths of these fish which gives them an unamiable and perpetual sneer. So far as the plaice is concerned, the supercilious appearance together with the red spots are well accounted for by a very old legend which is, or was, current in the Isle of Man. There had been disputes among the fish of the sea, happily ending with a general consensus of opinion that the election of a king to settle their quarrels was desirable. So a great meeting was held. The plaice, however, stayed at home overlong, covering himself with red spots so as to appear beautiful and worthy of being elected ruler over the inhabitants of the ocean. When he arrived at the meeting-place he found another had been chosen. Giving his mouth that disdainful twist which it now exhibits, he remarked, 'Fancy a simple fish like a herring being King of the Sea!' And fate so ordered it that he should wear those red spots and that proud sneer for ever.

Soles, dabs, and flounders neither lie nor swim on their bellies, but on one side which is light in colour, the other being dark. If we would discover how this came about, we may either consult works on natural history or the legends of Upper Egypt. Let us take the legend first. Moses, so it was said, was once frying a flat fish, but just as one side was done the oil in the pan dried up and no more was available. A

practical man would have eaten the cooked side and left the raw portion for further consideration; but Moses, greatly irritated, cast the half-fried fish into the sea. The creature came to life, and ever since that day has been brown on one side and white on the other. Notwithstanding the above narrative, let it be confessed that there are fish which I may term 'done on both sides'—that is to say, though true flat fish, for some reason or other they have developed colour on both sides; but these are rare. They are, however, said to be better eating than the parti-coloured flat fish. Disregarding the Egyptian legend, it would seem that the colouring on one side of the flat fish is a provision of nature by which the fish, assimilating itself to the appearance of the ground on which it lies, or in which it buries itself, is not easily seen by its enemies. In foreign seas there are certain flat fish which are found among coral reefs, and these are ornamented with rather striking colours.

I have called these flat fish remarkable freaks of nature because, when hatched, they are coloured on both sides alike and swim back upwards like any ordinary fish. Being very thin from side to side and very deep from back to belly, in the course of a week or two they begin to topple over and swim on their side. Then follows a marvel. The eye which regards the bottom of the sea soon wearies of the prospect and gradually moves until it reaches the uppermost side, where it remains for the rest of the fish's life. This remarkable phenomenon was observed many years ago. How such an extraordinary change of appearance takes place has been a subject of considerable difference of opinion among naturalists. Some have said that the eye works round under the skin and by the snout, others that it passes under the frontal or forehead bone of the fish right through to the other side, and some that it actually cuts through the forehead bone in its course. This remarkable change occurs when the fish is very young and the bones are soft and cartilaginous. All that the unscientific person will observe is that the eye on the under side gradually becomes depressed, while a round and dark spot appears on the upper side

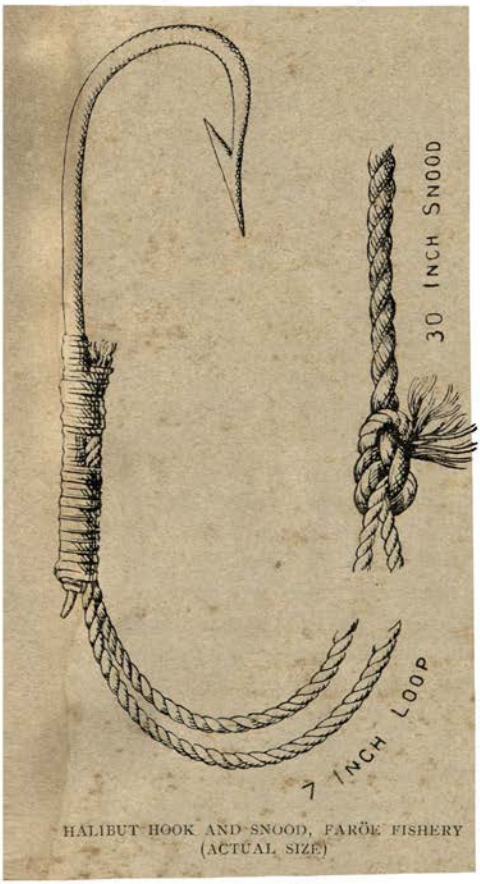
of the fish in the place where the eye is destined to break through. Gradually the spot above develops into an eye, and the eye underneath totally disappears. Professor Alexander Agassiz, writing in 1879, appeared to think that the eye was transferred either by translation or rotation; that is to say, in some instances the travelling eye would go round the head by the snout, while in others it appeared to pass right through the tissues of the head.

Another curious fact about flat fish is that some have their pair of eyes on the right side, while others have them on the left. But even among those species which I may term 'right-eyed' the left side is occasionally chosen to simulate the back of the fish. Those rare examples which are coloured on both sides are sometimes termed 'double fish,' and these, by the way, swim in a vertical position—which explains their colouring—and more often leave the bottom of the sea than do the rest. Occasionally flat fish are found which are white on both sides.

The principal flat fish possessing the remarkable peculiarities described belong to the family called *Pleuronectidæ*, which includes the halibut, turbot, brill, sole, plaice, flounder, dab, and solonette. Of these, the dab, plaice and flounder are undoubtedly the most important from a sportsman's point of view, while the turbot, brill, and sole appeal more to the *gourmet*. Let each now be more particularly described. First, then,

The HALIBUT (*Hippoglossus vulgaris*) is the largest, British, side-swimming, flat fish. It is often called *turbot* in Scotland, old or very dark halibut going by the name of *blacksmiths* on the East coast. Another pseudonym is *workhouse turbot*. In home waters halibut are most often caught on lines set for other fish—a haddock of a couple of pounds or so is hooked, and the huge flat fish engorges the haddock. I have given some account of the gear and baits used in the Faröe waters for this fish on page 262. In the Moray Firth the bait used is a piece of plaice, but a halibut will take the usual cod and turbot baits. As a rule, when a halibut is hooked on a hand line it breaks away, and when it seeks to rob a long line

it is so large and powerful that it has been known to go off with line, hooks, stones, and buoys. Halibut are found on the cod grounds in deepish water, and, like the lemon sole, rather affect the neighbourhood of rocks.



HALIBUT HOOK AND SNOOD, FARÖE FISHERY (ACTUAL SIZE)

One summer, when I was at Rhiconich, on the coast of Sutherlandshire, a man appeared at our evening repast in a most downcast mood, having lost an enormous halibut. He had been fishing for cod, and hooked the big creature, which he played, or rather it played him, for over an hour. At last, he and his men succeeded in bringing it up to the surface, and found themselves unable to get it into the boat. Vainly they tried to stick fish-hooks into it so that they might tow it ashore, but the hide of the creature was too tough. Last of all they decided to get a running noose round it, and while all three were on one side of the boat endeavouring to do this, an unexpected wave caused the little craft to give a sudden lurch, which jerked the snooding a man was holding, snapped it, and

the big fish slowly sank out of sight. I forget how many hundred pounds the creature weighed.

Up in the far north of Scotland halibut are fairly plentiful, but are not often caught in the Channel. They are not uncommon on the east coast of Scotland. A number of enormous fish of this species have been recorded from time to time. One weighing seven and a half stone, and measuring five and a half feet long, and two and a half feet broad, was brought into Yarmouth in 1873. In 1876 one was caught on the East coast of England which weighed over 300 lbs., and was more than seven feet in length. In 1829 one seven and a half feet long and weighing 320 lbs. was caught off the Isle of Man. In more northern seas beyond our shores these fish sometimes attain a weight of 500 lbs. When the first steamer left Hull, with a Grimsby crew on board, to fish the Faröe waters as an experiment, they took with them nine miles of line. They returned with over a thousand halibut, weighing from one to nine stone each.

The TURBOT (*Rhombus maximus*) spends several more weeks of its childhood on edge than do the other flat fish. It is found all round our coasts, being particularly plentiful in the German Ocean, but large ones are almost unknown on the Scotch coasts. Turbot are caught over big sandbanks, and the Dutch are reputed more skilful in their capture than our own fishermen. Fishing is carried on from March till August. They are found both on sand and mud, and, like the sole, migrate into deep water during the cold weather. They feed largely on crustacea and molluscs, but the baits used by the fishermen with greatest success are live lamperns and sand-eels. In the Moray Firth herring is used as bait, and turbot are occasionally taken on mussels, sea worms, and limpets. Sometimes they appear to feed a little way off the bottom. The name was formerly spelt 'turbolt,' and they are called on the east coast of Scotland *king-fleuk*, *barncock*, and *roddan* or *roan fleuk*. The Orkney name is *rod*. Northumbrian fishermen speak of *brat*, *turbrat*, and *roddams*.

The BRILL—*Rhombus lævis* of naturalists, the *kite* of Devonshire and Cornwall, *bastard turbot* of Moray Firth, and *sitter fleuk* of Aberdeen—is not often taken by sportsmen. It is a rare fish in the north of Scotland, but fairly abundant round the coast of England, and more so on the South than on the East coast. Sometimes it is found in sandy bays, but in colder weather it seeks deep water; in fact, in its habits it closely resembles the turbot, and the methods of capture are much the same.

Of the SOLE (*Solea vulgaris*) I am inclined to say little. In the first place, it bids fair to become extinct; and, on account of its scarcity and night-feeding habits, is not often caught by the angler in salt water. During warm weather soles come into fairly shallow water, retreating into the deep in winter, their migration, if it may be so called, depending in a large measure on the temperature of the air and water. Soles are fairly prolific in the matter of eggs, a fish of one pound having been found to contain 134,000; but so great a destruction of fish-life goes on in the sea, that such vast quantities of eggs even as this are insufficient to counteract the destructive agencies, natural and artificial, human and inhuman. The sole is a fish which is found all round the coast of England in suitable localities, but gets scarcer towards the north of Scotland. It is also common on parts of the Irish coast. A cast of a pair from Ireland which weighed 12 lbs. was made by Frank Buckland. Yarrell records one of 9 lbs. which was for sale in the market at Totness.

If any of my readers are fortunate enough to find a fishing ground where soles are plentiful, they should fish on the bottom with the tackle shown on p. 222, and bait with lugworms if obtainable; failing these, mussels, ragworms, and the tails of hermit crabs may be tried. The fishing should be done at night, and a most favourable time will be when there has been sufficient sea to thicken the water. Then the fish may feed in the daytime.

There are several varieties of sole—*Solea lascaris*, *Solea*

*variegata*, and *Solea lutea*. *Solea lascaris* may be known by a series of spots or blotches over it, while *Solea variegata* is partially barred, and *lutea* has a few well-defined black spots placed widely apart.

LEMON SOLE is a local name applied to three different species of fish. The long rough dab (*Hippoglossoides limandoides*) is so called in Scotland; the smear dab (*Pleuronectes microcephalus*) takes the same name in Ireland; and the term is also applied to *Solea lascaris*, already referred to. The fish to which I have been in the habit of giving this name is the second of the three mentioned. I have caught a good many when fishing for codling on the edge of rocky reefs. They are fish which are usually found in such localities, and there is no better bait for them than the lugworm. They have a differently shaped mouth from the sole, and are much darker coloured, but the colour of all flat fish varies a good deal with the ground on which they lie, so that nothing dependable can be said on that point.

PLAICE (*Pleuronectes platessa*) may always be identified by their red spots. They are fairly plentiful all round our coasts, and in places afford really good sport to the sea angler. Like most other flat fish, they haunt sandbanks and muddy bottoms, and may often be found in quantities on sandy patches surrounded by rocks. I have caught them in three fathoms of water, or less.

A very perfect mare's nest was once discovered in connection with these fish. The theory was started that they were descended from shrimps, and a naturalist, to test the statement in a praiseworthy practical manner, obtained a few live shrimps and kept them in a tank. At the end of a few days he found in the tank some young plaice, and further investigations tended to show that the eggs of the plaice were sticking to the shrimps when placed in the little aquarium. In the following year he half filled two vessels with salt water, making one the home of a few plaice, devoting the other to plaice and shrimps. In both vessels the

plaice spawned, but only in the vessel containing the shrimps did the ova hatch. So the experimenter came to the conclusion that in some way the shrimp was essential to the hatching of a plaice egg. Since that day, however, plaice eggs have been hatched in the laboratory of the Marine Biological Association at Plymouth and other places, and this without the assistance of shrimps.

Plaice are fished for on the bottom with such tackle as that shown on p. 222, and many more will be caught if a rod is used than on a hand line. I prefer a hook about half the size of those used by the fishermen, baited with lugworm, mussel, ragworm, peeled uncooked shrimp, cockle, or any soft bait. I have caught not a few of these fish on pieces of sprat, mackerel, and squid. Now and again a plaice as large as seven pounds is captured, and fish of fifteen pounds weight are on record. From three-quarters of a pound to two and a half pounds is the more common size.

HOOK FOR MEDIUM-SIZED PLAICE AND SAND DABS

The SAND DAB (*Pleuronectes limanda*) is likely to be caught wherever there is a sandy shore. Should the run of fish be small the hook may be a size less than that illustrated. As a rule these fish are pale in colour, fairly transparent, and may be distinguished from the flounder by the roughness of their scales. Draw the hand from tail to head along them and they feel like a nutmeg grater. The flounder, on the other hand, is a fish with small scales covered with mucus, and is smooth almost as eel or tench. The sand dab is not sufficiently appreciated. When fresh, unless taken from muddy waters, it is nearly as good as a sole. It is found all round our coasts, and, so far as my experience goes, is particularly plentiful in Tenby Bay. Torbay is another noted spot. Along with these fish will generally be caught a few plaice and flounders. The best baits are those already recommended for plaice.

FLOUNDERS are termed *Pleuronectes flesus* by naturalists, and *flounders*, *flecks*, *butts*, *black backs*, and *lanterns* by com-

mon persons. In Norway I noted that the term *flyndre* was applied to several varieties of flat fish. It has been suggested that the word is derived from the Swedish *flundra*. They are peculiar among flat fish in ascending rivers for a considerable distance, and even at times adopting a freshwater existence. They seem able to live in highly polluted water, and I have caught them in noxious places where, judging by the colour of their uppermost side, the bottom must have been black mud. At one time there were great quantities living in the lower reaches of the Thames, and attempts have been made of late years to reintroduce them, but so far without much success.

But, though natural history, this is not exactly the natural history of the flounder, to which let us return. Our fish is found principally at the mouths of rivers and muddy creeks; and that he ascends fresh water for a considerable distance, more particularly in times of flood, is unquestionable. According to Yarrell, flounders pushed up the Thames as far as Sunbury. They abound all round the British coasts in suitable places, and are particularly plentiful in the north. Their number is no marvel, for in a fish of 24¼ ounces 1,357,400 eggs have been counted. The breeding season is during the spring.

In some parts of Europe flounders are fattened for the table. A water souchée of them is a celebrated dish, but sometimes they are not worth eating, their condition depending on their food. Thames flounders are, or were, celebrated, and *their* principal food would be shrimps, baby crabs, and the refuse of a big city. As to size, one of six pounds has been recorded, but half a pound to a pound and a half is the more common weight. In shallow waters, near their spawning grounds, and where they pass the early portions of their existence, the general run of fish caught is even smaller.

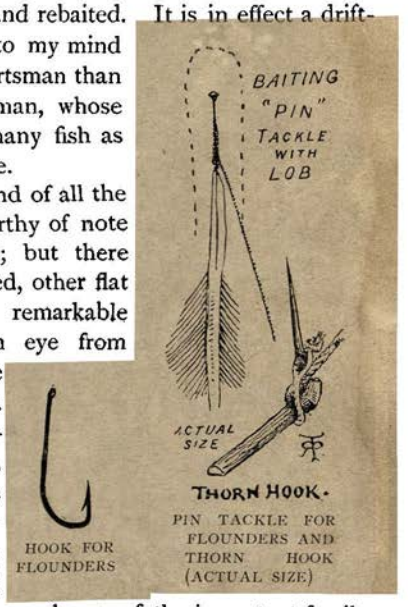
There are very few of the ordinary sea-fish baits which flounders will not take, among the best being soft crab, lug-worms, tail of hermit crab, mussels, pieces of mackerel, and, in fresh or brackish water, earthworms. I have, indeed, used earthworms in the sea for both flounders and sand dabs,

but they soon die in salt water. Perhaps the best tackle is that shown on p. 222, but personally I prefer to fish with a two-hook paternoster, with one hook just resting on the bottom; then the bite can be felt at once, and one is not so much troubled with the fish gorging the hook as in those tackles in which two or three hooks attached to rather a long snooding lie on the bottom.

There is a method of fishing for flounders without a hook. A common pin about an inch long is the substitute. It should be of rather fine wire. To its centre is knotted or whipped a piece of very fine silk line, which corresponds to the hook link of gut in the paternoster tackle. The arrangement is baited by hiding the pin in a piece of a lobworm. When the fish swallows this, and the silk line is pulled tight, the pin takes up a transverse position in its throat. The pin is sufficiently strong to enable the flounder to be brought to the surface and lifted into the boat with or without the assistance of the landing net. To disengage the fish it is only necessary to pull the silk line, when the pin bends in the middle. It has to be bent straight again before being rebaited. To get these pins into the piece of worm is a little difficult. The way of it is to place the pointed end of the pin in the quill feather of some bird, such as a rook, partridge, or fowl. The worm can then be easily slipped over the head of the pin right down over the quill, which is withdrawn, leaving the pin in the centre of the worm. Personally I prefer to use a hook, but this arrangement, which appears to me to give unnecessary pain to the fish, is much favoured by some anglers. In the Thames estuary, on the coast of Essex, thorn hooks are still used. The form of these curious contrivances, which we should expect to find among aborigines rather than in English waters, will be understood from the illustration. Each thorn has about an inch of lugworm twisted round it, and the lines so baited are laid about fifty yards from the shore at low tide.

With the two-hook paternoster, using hooks of the size shown in the illustration, one can feel a bite and strike at once,

as a rule hooking the fish in the mouth. The lead should not be heavier than is required to hold the bottom. A professional method of catching flounders is to moor the boat in a tideway, and throw out from it half a dozen lines rather heavily leaded, below the lead being a long snooding bearing three, four, five, or six hooks. This, when lowered, streams out in the current and lies flat along the bottom. The lines are hauled from time to time, the fish taken off, and rebaited. It is in effect a drift-trot on a small scale, and to my mind is less a tackle for the sportsman than for the professional fisherman, whose only aim is to catch as many fish as possible in the shortest time.


BAITING "PIN" TACKLE WITH LOB
ACTUAL SIZE
THORN HOOK.
HOOK FOR FLOUNDERS
PIN TACKLE FOR FLOUNDERS AND THORN HOOK (ACTUAL SIZE)

This brings me to the end of all the side-swimming flat fish worthy of note for our particular purpose ; but there are, as I have already hinted, other flat fish which have not the remarkable peculiarity of twisting an eye from one side of the head to the other in childhood's days. Neither have they the perpetual sneer of the sole, but, on the other hand, possess features by no means devoid of expression, and tails which many a dog might envy. These are the skates and rays, of the important family named *Raiidæ*.

The sometimes sinister-, sometimes merry-, looking mouths of these fish, as well as their gills, are on their bellies. Nature having found this an inconvenient arrangement, especially as regards the breathing apparatus, added breathing holes on the top of the head, through which water is taken to the gills. In most other fish water enters by the mouth and is expelled through the gills. The eggs of these fish are as eccentric as

their layers, being contained in dark indiarubber-looking purses, in shape something like—well, I can think of no better simile than a Spanish priest's hat. Dogfish have similar cases to their eggs, and, as with the skates and rays, the egg is fertilised in the body of the female. In the egg of the dogfish the four points of the egg case are continued in little tendrils. In some places the children call the curious egg cases of the Raiidæ *skate barrows*. They are frequently picked up along the seashore.

As food the skates and rays are not everywhere in high repute, though crimped skate is now deemed a luxury by some people. In the Hebrides I found the people eating a pungent and horrible food known as 'sour skate,' the sourness being effected, I understand, by simply keeping the fish until it goes bad.

The COMMON SKATE—the *Raia batis* of naturalists, blue skate of Scotland, and grey skate of England—is common round the coasts of Great Britain and Ireland. It grows to an enormous size. There is one in the British Museum which is six and a half feet long, and five and a half feet across from wing to wing. One is recorded from the Faröes which weighed 423 lbs. Skate are immensely strong, and have a way of digging their noses into the bottom, or somehow or other taking grip of a rock, remaining apparently immovable. Like all flat fish, as long as they keep their normal horizontal position they offer great resistance. The one chance with a big skate is to pull at his head as obliquely as possible (effected by letting out much line) and in varying directions, until he gives way, when the rest, except with very large fish, is easy. It is important to keep a heavy strain on him all the time.

Some time ago the 'Field' recorded the capture, by an amateur fisherman, of a skate weighing considerably over 100 lbs. It was taken off Aberystwith.

One of the most certain means of ascertaining the best bait is to hold an autopsy, and discover on what a fish has been feeding. Couch, who tried this experiment, found in a large skate, two big plaice, two mackerel, a lobster, a ray about

eighteen inches long, and half a salmon. This finding certainly indicates a considerable and remarkable range in our choice of baits.

Mr. Dunn, of Mevagissey, discovered inside one of these fish a stone weighing about a pound. As a matter of fact, the skate is not particular; place a small whiting, a haddock, a herring, a pilchard, or any kind of fish on a large hook, and he will be pleased to take it. Very often he will hook himself by the wing or fin as he flaps along the bottom. Large numbers are caught in trawls, and not a few on long lines.

Young skate are termed *maids*. The largest British fish of this kind is the white skate (*Raia alba*). Couch named it the *Burton skate* or bordered ray, and it is also called *May skate*, the *doctor*, *friar skate*, and *sharp-nosed ray*. One of nearly 500 lbs. has been recorded. Other varieties are the *long-nosed skate* (*Raia oxyrhynchus*) and the *shagreen ray* (*Raia fullonica*).

The RAYS are much like the skates, but are shorter or blunter in the snout, and, in addition to certain dangerous thorn-like teeth or claws which project from the tail, have similar weapons of defence and offence along the ridge of the back-bone and sometimes adorning their heads. First comes

The THORNBACK RAY—so called from these said adornments. *Raia clavata* is the scientific name. Fishermen usually drop the 'ray,' and merely call them 'thornbacks,' which answers every purpose. These fish are found on almost every part of our coast, and are particularly abundant round the north-western islands of Scotland. They are deemed fairly good eating if not too large. In Scotland they are often salted, but some fishermen merely dry them.

The HOMELYN (*Raia maculata*), which is also called *spotted ray*, *rough ray*, and *sandy ray*, has much the same habits as the thornback, and is caught with the same baits. It is spotted all over its back, has a triple row of tiger's claws on its tail, a single row up its backbone, and smaller projections of the same kind scattered about its head, nose, and round the fore edges

of its fins. Other varieties of this species are the PAINTED RAY (*Raia microcellata*), the STARRY RAY (*Raia radiata*), the CUCKOO RAY or SANDY RAY (*Raia circularis*).

There are three fish which in general form much resemble the rays. The first of these is the STING RAY (*Trygon pastinaca*), which is worthless as food. The tiger claws are wanting in this family. The tail is something in the nature of a whiplash, but from it projects a poisonous spine which can inflict a fearful wound. The WHIP RAY (*Mylobatis aquila*) is a somewhat similar fish, with a much larger tail than the trygon, and has on its back very curious markings somewhat resembling a backbone and ribs. It also possesses an extremely poisonous spine near the base of the tail, of which all honest fishermen should beware. Lastly, there is the OX RAY (*Cephaloptera giornæ*), which has a long whiplash of a tail, and a body shaped very much like a bat with wings extended. Near the base of the tail is a terrible-looking spine with serrated edges. It is an exceedingly rare fish in British waters, but better known in the Mediterranean, where, I believe, it grows to an enormous size.

## CHAPTER XIII

### COD, HADDOCKS, WHITING, BREAM, CONGER, SHARKS, ETC.

ANY formal introduction of the reader to the Cod family is surely needless, for they are old acquaintances. Round the British Isles and in all northern seas these valuable food fish abound where the depth is not too great, for their favourite feeding grounds lie at a hundred and fifty fathoms and less distance from the surface. Often, indeed, they come close inshore and may be caught from the beach.

The Cod family is a large and important one, but for the moment I will only deal with *Gadus morrhua*, that great lump of a fish which is to be seen almost any day of the year, displaying its noble proportions on the fishmonger's marble slab. Naturalists, and indeed fishermen, record several varieties. For instance, the fish of the Doggerbank are somewhat longer in the head than the Scotch cod. Codlings are caught of all kinds of colours (yellow, brown, speckled, red, &c.), which may depend on the rocks and seaweed among which they are living. I took one almost red and sent it to the late Dr. Day, thinking I had discovered a marvel, but that eminent ichthyologist informed me it was an ordinary cod. Off the Isle of Man, however, the red cod are deemed the best. They are often quite bright in colour, and their appearance may after all not be altogether dependent on the nature of their haunts, as they are found in company with brown fish. They are caught weighing as much as 30 lbs.—sometimes more.

There are few fish more prolific than the cod. Buckland counted nearly two million eggs in a fish of $11\frac{1}{2}$ lbs.; and $7\frac{3}{4}$ lbs.

of cod roe he found to contain 6,867,000 eggs. Professor Sars said that cod spawn seemed to 'fill the sea' towards the end of March near the Loffoden Islands, the great cod-fishing grounds of Norway. There the shoals of cod are so numerous that they are called fish mountains, and as the lines are being let down the leads can be felt hitting against fish. It has been calculated that if five million eggs is the average number contained by each female cod, and that about half a shoal consists of females, one of these enormous fish mountains of Norway will deposit in the sea three hundred billion eggs. From such marvellous figures as these one might, and people often have, jumped to the conclusion that, however much we fished for cod, we could never thin them out. A moment's consideration will show us that each pair of cods probably only produces in the end one mature fish, or thereabouts. If it were otherwise—if, for instance, every two cod out of their five million eggs produced two fish, the numbers of cod in the sea would be doubled every year. Anyone will soon see for himself, if he works out the figures, that in a few years cod would be packed so thickly between England and the Continent that the Channel could be crossed without boats.

We in England are far behind the rest of the world in marine fish culture, particularly as regards cod, though the Scotch Fishery Board has of late years taken some steps in that direction. Norway, Newfoundland, and America are the three countries where cod have been successfully reared. In Newfoundland, at Dildo, Trinity Bay, is a very complete hatchery mainly devoted to these fish. The salt water used in it is pumped up from a depth of thirty feet, so that it may be pure. The hatchery can contain about two hundred million eggs. For some years the Newfoundland cod fishery has been deteriorating, and it is hoped that this hatchery will restore it to its former excellence.

Flödevig, at Arendal in Norway, a very much more important cod hatchery, is under the direction of Captain G. M. Dannevig. Since it was established something like

nine hundred million cod fry have been bred there and placed in Norwegian waters, and—a matter more to the point—there has been a marked increase in the number of small cod found along the coasts. While the returns for other fish have decreased, the cod fisheries, in which 101,650 fishermen are engaged, appear to be improving. The immensity of the operations may be gathered from the fact that in 1892 Norway exported cod to the value of thirty-three million kroner, a kroner being a little more than a shilling. The hatchery of Flödevig was formerly a private enterprise, but for the last few years it has been endowed by the government.

Formerly cod used to be stripped of their ova like salmon or trout; but there is a great difference between the two fish. In salmon and trout the eggs ripen all at one time, and can be removed by pressure on the abdomen in a few seconds; in cod they ripen by degrees, and are extruded at intervals lasting for a period of six weeks or so. Captain Dannevig now allows his fish to spawn naturally, and the impregnation of the eggs also takes place naturally with very good results, the fish meanwhile being kept in ponds supplied with filtered sea water. As the eggs come floating to the surface, the milt following and mixing with them, they are collected and placed in hatching boxes.

Anyone visiting Norway should certainly pay Flödevig a visit, and if a man of wealth, of a patriotic turn of mind and anxious to do his country a service, let him start some such institution on our own coasts. Those who would see cod fishing at its best, or shall I say worst, should when paying a visit to the midnight sun, or latitudes slightly less northern, drop lines overboard in the neighbourhood of the Loffoden Islands. There they will haul up cod after cod until their arms and backs weary, the whole deck running with gore and looking like some hideous shambles. It almost disgusts one of sea fishing, say those who have tried it.

The energetic Fishery Commission of the United States carries on a great deal of marine fish culture, cod by no means being neglected. And, needless to be said, our American

friends deal in millions where we should be satisfied with thousands. Not only cod, but haddocks, pollack, mackerel, Spanish mackerel, and other fish are all artificially reared up to the fry stage. From twenty-two hatching establishments there were distributed in the course of two years 196,409,650 eggs; 525,783,273 fry; 2,400,094 yearlings and adults—a total of 724,593,017. These were not all marine fish, a large number of white fish, pike, perch, and shad being included. In the year 1890-91 3,000 selected cod produced over sixty-seven million eggs, from which were reared about thirty-six and a half million fry. It is very satisfactory to find that this planting of fry in the sea has in America, as in Norway, produced good results. Those who would seek further information on the subject I must refer to the Reports of the American Fishery Commissioners.

Professar Sars, of Norway, who has made a special study of these fish, found that the eggs floated unless the specific gravity of the sea was lessened by river water flowing into it, which would cause them to sink. At Flödevig, for instance, after a long succession of winds from the east or south-east, the brackish waters of the Baltic are so mixed with those of that portion of the North Sea that salt has to be added to the breeding ponds. Otherwise the eggs will not float.

The eggs are from about eighteen to thirty or more days in the hatching, according to the temperature of the water. Like a trout, the little fish when first hatched is furnished with a tiny food supply of its own, contained in an umbilical sac.[1] When this has been exhausted the young cod, now an inch long, come shorewards and feed and are fed on, many millions doubtless being eaten by larger fish and sea birds. When a year old they seek deeper water. Fishermen call anything under twenty inches *codling*, from twenty to thirty inches *sprags*, then come

[1] At Dunbar, N.B., is a hatchery instituted at an expenditure of only 1,600*l.* and costing annually about 600*l.* Up to the present its managers have hatched and planted in the sea 69,585,000 fry of various sea fish, of which this year (1895) nearly three millions were cod. Why does not the Government establish fifteen or twenty such hatcheries? The comparatively small outlay required would soon be repaid twenty-fold.—J.B.

*half cod*, and then *cod*. They are such voracious feeders, and the sea is such a good feeding ground, that their growth is undoubtedly very rapid. According to Jackson, some cod which were in the Southport Aquarium grew from three-quarters of a pound to six or seven pounds each in a period of about sixteen months, and they would without much doubt grow still faster in the sea.

In the matter of food the cod is the ostrich of the sea. Whether a tenpenny nail or a soda-water bottle has yet been discovered in one of these fish I do not know ; but if keys, why not tenpenny nails? For there is a very pleasant story of a certain Captain Hill who dropped a bunch of keys overboard from a trawler in the North Sea, and weeks afterwards found them again in the belly of a codfish captured miles away. Live crabs are not pleasant things to swallow, one would think, but cod take them readily enough, and in a Scotch cod was found an entire Norway lobster. Dr. Day recorded how one Grove took a piece of candle seven inches long from the inside of a cod, and how Mr. Reid, of Wick, saw a black guillemot in perfect feather removed from the stomach of one of these fish in March 1879. Cod often play the marauder, and rival the cuttle-fish by feeding on the herrings which have been meshed in the drift nets. It is a common thing for a small fish to be caught on a long line, for a cod to come swimming by and take the small fish, and there is always the chance of a huge halibut absorbing the cod and going off with line and all. Truly the sea is a place of marvels, which is one great charm of it.

Just such another incident—minus the halibut – came under my notice in the north of Scotland. Some friends and I were out in a fishing boat moored over a famous haddock ground. On the flood tide boat-loads of crofters came off and laid their short long lines—if I may use an Hibernianism—all round us, leaving them down about an hour, then taking them up with something like a haddock for every three hooks. Eighteen a shilling these excellent fish were selling for in the clachan. I was fishing with a single gut paternoster, just such a one as I have described

on p. 218, but of fairly stout gut. Our bait (mussels) ran short, so, leaving them for the ladies who were on board and anxious to have good sport, I cut up a haddock for myself and fished with the pieces.

One of our crew at once said that I was not likely to catch haddocks with that bait, but if there was a cod about I should surely have him. But I did catch a haddock or two, and presently there was a heavy weight on the rod which was irresistible. There was no rush such as a lythe or saithe would make, simply a steady march-along motion, which took my line off the reel inch by inch. I played the fish as hard as I dared, and after a while, to my surprise, he suddenly came to the surface a good many yards away, and turned over on his back. It is a way with cod; whenever they exert themselves something appears to go wrong with their air bladder, and they can no longer keep near the bottom. Perhaps it is a good thing for anglers who fish with fine tackle that this is the case. However, there was the fish, and without difficulty we now reeled him in. The scumma, as Murdo called our landing net, was placed under him, and he was lifted into the boat. He was a fine, big, fat cod, and from his mouth dangled a snooding made of six or seven horsehairs twisted. When the cook at the lodge cut him open that night she found on the end of the said snooding a hook, and on the hook a good-sized haddock. This greedy fish had evidently lifted the haddock from one of the crofters' lines, swallowed it, broken off the horsehair snooding, and, thinking nothing of the incident, swam slowly under our boat, saw my piece of haddock, and took it.

But this is nothing to what cod do sometimes. It has been said—nay, more, put in print—that a partridge was once taken from the stomach of such a fish, while others have been caught containing hares and white turnips. But the most eccentric cod I ever heard of was one which was brought to the Vice-Chancellor of Cambridge somewhere about Midsummer's Eve in the year 1626. He had been caught in Lynn Deeps, and from his maw was taken 'a booke in three treatises.' To the

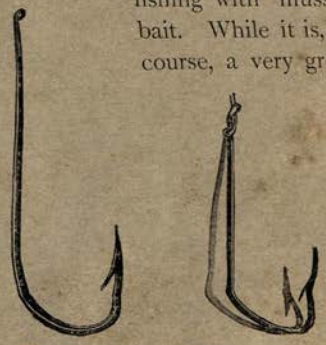
naturalist the cod is of even greater value than to the bibliophile, rendering up from his capacious stomach an immense variety of rare and sometimes beautiful marine creatures, which the trawl usually maims or destroys.

Cod are in first-rate condition for the two or three months previous to the time they spawn, the date of which varies in different places from January to late in the spring. On most parts of our coast the longshore cod fishery of the sea angler begins in September or October. On the east coast of England and Scotland immense shoals of small codling make their appearance at the end of summer. These may be only half-pounders or pounders. A fortnight or so later fish of two pounds will be caught, while about Christmas and onwards large cod will be found foraging for food within a hundred yards of the shore. It should be understood that this statement of time and size of fish is to be taken as a very general one, for both the size of the fish and the dates of their arrival vary very much in different localities and also at different seasons. This longshore cod fishing is quite an institution on the East coast in the autumn. I have said a good deal about it on pp. 54 and 190, to which I would refer the intending cod fisher.

When we are dealing with fish which will take anything, from a white turnip to 'a booke in three treatises,' it is obvious that we are not likely to go far wrong in choosing a bait; but I must say that, as in fresh water the same kinds of fish appear to favour different baits in different places, so it is with cod. On the East coast nothing answers better than mussels, unless indeed it is a lugworm or squid. In some places I have found lugworms better than any other bait I could try, including mussels. Then, again, when fishing up in the Hebrides, as I have described, the mussels beloved of haddock were quite disregarded by the cod, which were not attracted until I had covered my hook with a piece of haddock. A composite bait highly thought of by Scotch fishermen is made of lugworm and limpet. Its mode of attachment to the hook is explained by the illustration. Squid is a first-rate bait for cod, and so are pilchards, sprats,

sand-eels, herring, and mackerel. The whelk, called *buckie* in Scotland, is one of the most favourite baits for long lines, not so much because cod are particularly fond of it, but because it is not usually taken off the hook by crabs and similar fish. I have often tried whelk against mussel and lugworm, and always found I caught fewer cod on them than on the more luscious baits.

LUGWORM AND LIMPET



COD AND CODLING HOOKS

With regard to the size of hook, that must, of course, depend on the general run of the fish and the sort of bait which is being used. They may vary between the two sizes shown. The smaller—a curved Limerick—is particularly suitable for codling fishing with mussel bait. While it is, of course, a very great mistake to put a tiny bait on the point of a big hook, it is an equally big mistake to cover a small hook with a large-sized bait. Let both be in proportion; let the point of hook be sharp, and not guarded by a hard bait, and strike sharply as soon as a fish is felt. I have often caught a dozen or more codling without missing one when fishing with good hooks and a rod. In English waters cod are mainly caught by professional fishermen on long lines and in the trawl, and in the illustration are shown the hooks and snoods which are used for this

purpose in the North Sea. The tendency among the codmen is to use smaller hooks than formerly. By 'inshore,' as applied to the smaller hook, is meant waters within say forty miles of the coast and from about ten to fourteen fathoms in depth. A sea angler will generally use a paternoster. For fish up to ten pounds single gut is quite strong enough unless the lead required is a heavy one, say over a pound, in which case double or treble gut is desirable. Treble gut, of course, varies in thickness; it may consist of three thicknesses of fine gut or three thicknesses of stout gut. A very fine paternoster, one which many people have considered to be good for cod fishing, is made by taking two stout salmon casts and lightly twisting them together, swivels being inserted at intervals to carry the hook links, which may be of twisted gut or gimp slightly less strong than the main length. I fished with one and the same single gut paternoster for three years in succession, and even then did not lose it, but threw it away as it had become very much frayed, though still strong. Certainly salt water does not rot gut.

NORTH SEA HOOKS AND SNOODS (ACTUAL SIZE) USED ON LONG LINES

The WHITING.—Important members of the *Gadidæ* or Cod family are the pollack and the coalfish, but these I have dealt

with in a previous chapter. Of a kin, and next in importance, at any rate to the sportsman, is the whiting (*Gadus merlangus*). To taste a whiting at its best one must be a sea angler, for a considerable portion of the whiting which come to market are caught in trawls, and are towed along for hours in a half-dead condition mixed up with stones, crabs, starfish, &c. Then they are packed in boxes, and later on, as likely as not, kept for some days on ice, particularly if the wholesale price is low. When they come to table they are insipid and either watery or dry. But take your rod and come with me to some big sea loch on the north-west coast of Scotland. Moor the beat over a little bit of sandy marl which Macdonald knows of, and presently we shall begin to pull up, not the miserable little half-pounders of our South coast, but big fellows running from one to two and sometimes three pounds. An hour of this sport will suffice to fill a good-sized basket, and then back we go to the little hotel at the head of the sea loch, give our catch into the hands of the fair-haired Christina of the blue eyes, descendant of the Norse raiders, and presently there will be a noise of fizzling heard through the land, and the delicate, moist, delicious fish will be set before us on the plain but well-stocked board.

The largest whiting I have ever taken were from those same sea lochs, but it has been in the Downs between Deal and the Goodwins that I have found them most plentiful. There a hundred or more in the course of a few hours is no uncommon catch.

In summer-time whiting show a preference for the shallows, but, generally speaking, fish of any size are not caught in much less than ten fathoms of water. In winter they retire to the deeps. When the water is very clear, it is best to fish at night, and at all times many more will be caught at sunrise, or thereabouts, than at any other time of the day.

There is no better tackle than the paternoster, and for whiting—perhaps more for him than other sea fish—it is a decided advantage to use fine tackle. I should never think of

'AN HOUR OF THIS SPORT WILL SUFFICE TO FILL A GOOD-SIZED BASKET'

using anything stronger than medium single gut for the hook links, and find that a hook half the size of those commonly seen on the hand lines of the fishermen is the best size, unless the run of fish is exceptionally large.

Any sizes between the two shown in the illustration may be used, according to the circumstances. When the fish are biting very shyly indeed, I use the very small hook; not covering it, but hooking on to it a tiny strip of mackerel or herring skin, or a ragworm. Among the best baits are lugs, pilchards or their guts, herrings, squid, mackerel, and ragworms.

Whiting spawn about March, after which they are out of condition for a month or two, but have greatly improved by July, and are at their best in the autumn. When the cold weather comes they retire into rather deep water. According to Pennant, whiting up to as much as eight pounds in weight have been taken near the Dogger-bank.

WHITING HOOKS

Many a cockney goes to Brighton, pays his half-crown an hour for the privilege of dangling a hand line over the side of a cockleshell of a boat, and catches a few fish, which he is gravely assured by the longshoreman in attendance are whiting. In all probability these will be pout or rock whiting, for the said longshoreman is, as a rule, too lazy to take his customers to the whiting grounds which lie further out.

The POUT (*Gadus luscus*) is less silvery than the whiting, and has not its elegance of form, being decidedly pot-bellied. If a vessel has foundered anywhere, and its ribs are still sticking up out of the sand in a few fathoms of water, there will pout be found in numbers. It also loves rocks and seaweeds. In very cold weather it may migrate into the deep water, but is generally caught all through the year at its usual haunts. Being somewhat widely distributed around our coasts, it is surprising it has not more local names, but the only ones I know

of are *bib*, *whiting pout*, *pout*, and, in Cornwall, *blens* or *blinds*. It does not often run to any size, though rare examples have been taken weighing several pounds. For tackle there is nothing better than a single gut paternoster with a small whiting hook. Where the fish run exceedingly small, the very small hook illustrated may be used. The pout is, as a rule, not particular in the matter of baits; any of those mentioned for silver whiting will succeed with him. The ground-bait net will attract him and bring him on the feed. When caught he should be eaten the same or, at the latest, the next day, as his flesh rapidly deteriorates.

The HADDOCK (*Gadus æglefinus*) is a fish which has given me many a day's enjoyable sport. It is so well known that description hardly seems necessary, though let it be mentioned that fresh out of the sea it is arrayed in lovely shades of lavender and silvery grey, and presents a very beautiful appearance. In Irish waters haddock have been caught which were somewhat remarkable in colouring. One was shown in Belfast market the upper part of which was salmon colour. Then there was a golden-coloured haddock caught near Strangford, while Dublin Bay produced one which was canary-coloured. In size haddock generally run from one to three pounds, but some very large examples have been recorded. Dublin Bay, a noted place for these fish, produced one weighing 24½ lbs., and another of 16 lbs. Couch mentions one of 25 lbs.

HOOK FOR SMALL POUT

Haddock are found mostly on our eastern coasts, and in Scotch waters are a very important item in the products of the fisheries. As a rule they swim in vast shoals, but will suddenly and without apparent reason leave grounds which have been noted for them for many years. Doubtless the explanation is that the food supply has become exhausted. For instance, up to the year 1870 haddock were very plentiful off Mevagissey, in Cornwall, large ones up to twelve pounds in weight sometimes being caught. In that year they left those waters, and are now considered a rare fish.

There is not much doubt that the trawlers have injured the haddock fisheries in many places. According to Pennant, who wrote in 1776, haddock were then so plentiful within a mile of Scarborough Harbour that three men using long lines could often load their cobble with a ton of fish twice a day. But the trawls have changed all that. Trawled haddock, by the way, are mostly cured, being a good deal knocked about. Fish caught by hook and line are infinitely the best for the table; but here I would ask, why in the name of goodness do English people almost invariably plain boil haddocks and serve them with egg sauce? If there is any sea fish more than another that requires good cooking, it is the one which, according to the legend, St. Peter drew out from the Lake of Genesareth to obtain the tribute money, leaving the mark of his finger and thumb on its shoulders. Parenthetically, the same story is told of the John Dory, which has some peculiar markings; and, also parenthetically, neither of these fish inhabit the lake.

HOOK FOR HADDOCK

But, to return to culinary matters, a well-fed haddock freshly caught out of the sea and filleted is by no means bad eating. It may be prepared *à la maître d'hôtel*, or egged and bread-crumbed and fried in butter. French cooks, I believe, abjure butter because it is not easy to fry a fish a good colour therein; but this frying medium gives a sweet nutty flavour which is wanting in fish fried in oil or lard.

Before you can cook your haddock it is necessary to catch him. As to that there is no great difficulty, for he swims in shoals and is exceedingly voracious. Having found him, fish near the bottom with a paternoster, the hook being about the size illustrated. Bait with mussels or lugworms or a piece of pilchard, sprat, mackerel, or herring, and you will surely catch him if he is at all on the feed. A bait which is deemed great medicine consists of a small piece of squid placed on the shank of the hook, the point being covered with a tempting

mussel. This is particularly useful on long lines, where the fish have to hook themselves and are apt to draw the mussel off the hook. The squid remains as a forlorn hope, and often leads to the fish being captured. The man with a rod, who can tell immediately the fish bites, and is accustomed to strike sharply and at the right moment, will catch haddock on mussel *solus* without any difficulty. I have caught a good many haddocks when baiting my hooks with pieces of grey gurnard.

HAKE (*Merluccius vulgaris*) and LING (*Molva vulgaris*) are two fish which are frequently confounded by amateur sea fishermen. Both of them, but more particularly the ling, incline to the appearance of being a cross between a codfish and a conger eel. In both the body is long and thin, and they are furnished with long back and belly fins, starting near the root of the tail and extending beyond the middle of the fish. The hake is the more ferocious-looking fish of the two, the rays of its two dorsal fins being spinous, while its mouth is furnished with quite an ogreish double set of teeth of the orthodox fee-fo-fum variety. Its eye is round. The ling, on the other hand, lacks these prickly points to its back fins; its teeth, while very formidable, are not so conspicuous; its eye is lozenge-shaped; and it has a barbule in the centre of its lower jaw, which is altogether wanting in the hake. Those teeth of the hake sometimes get him into trouble. On summer nights, when the sea is phosphorescent and the herring nets and herrings are sparkling with silver light, up comes Master Hake from the bottom, where he rests during the daytime, for he is a night feeder, and calmly sups off the caught herrings, until finally, getting too bold, his teeth are entangled in the meshes of the net, and sooner or later he is dragged on board the fishing boat and knocked on the head by the joyful fishermen.

The hakeing season is principally in the autumn and winter. Large quantities of these fish are caught on hand lines from the herring and pilchard boats while the nets are drifting. A whole pilchard or herring is one of the best baits that can be used. There are important hake fisheries in Irish waters,

particularly in the south (in olden times Galway Bay was called the Bay of Hakes), and also off Devon and Cornwall. In two nights the crew of a West-country boat once caught eleven hundred of these fish. I have eaten hake in Ireland and rather liked them. They are fairly good salted, and in the hands of a judicious cook are certainly more than passable.

Fishing for hake is, as I have indicated, nearly always done at night. A few may be caught during the day if the bait is kept close to the bottom. But during the hours of darkness it should be held at about midwater, various depths being tried until the fish are met with. Sometimes, indeed, they will be found only a fathom or two below the surface. They grow to a large size, and the ogreish teeth necessitate stout tackle and an armoured snooding near the hook, which measures about 1½ inch across the bend and 6 inches in length. Such a snood as that used for conger will answer the purpose (see pp. 67 and 250), but it is certainly desirable to have it served with wire. Some fishermen, in lieu of having an armoured snooding, use hooks with shanks about eight inches long, with an eye at the end; the fish then bite on to the hook shank instead of on to the snooding.

The LING, though perhaps not so fierce as the hake, emulates the cod in the matter of voracity. There is certainly no record of a fish of this variety having swallowed 'a booke in three treatises' or a bunch of keys (afterwards returned to its owner through the medium of a long line), but there is an unusually well-authenticated legend that one was caught off Brandon Head, in the county of Kerry, which contained a flask. Moreover, in the flask was half a pint of spirituous liquor.[1] Another such a story dates from November 17, 1881.

[1] Here is a certificate of truth culled from the *Pall Mall Gazette*, being a letter to the editor: 'Sir,—In reference to the amusing article of April 8, giving an account of the cobble stones which were found in the stomach of a ling exposed for sale in a fishmonger's shop at Liverpool, it may perhaps be of interest to your readers to know that I have in my possession an example of what I think may be considered as "gross an error on the part of a fish" as

A Mr. Boal, of Consett, opened a ling, which weighed twenty-five pounds, and discovered within it a small bottle, pieces of sealing wax, some parchment, a few herrings and a codling.

Ling grow to a great size. In the 'Field' of March 23, 1895, is a record of one weighing 85 lbs., and of three which together weighed 222 lbs. They were caught off the Faröes from the steamer fishing line-boat 'Saridus.'

If ling fishing is being carried on from the pilchard or other drifting boats, not so much lead is required as if the boat were moored, unless, indeed, the wind and tide are opposed. A lead of half a pound may be quite sufficient. The exact weight needed is soon ascertained. Below it should be a very long snooding, three fathoms or thereabouts—that is, assuming a hand line is the form of tackle. If a rod is used the line will, of course, be finer and the lead lighter. Very strong paternoster tackle will answer every purpose, but only one hook should be used, and the hook link may be eighteen inches in length and should be placed a couple of feet above the lead.

Ling are often caught by cod fishers, and they particularly favour those rocky localities in which one would expect to find large conger. Speaking generally, it may be said that they may be caught on the same tackle and with the same baits as conger and cod; but where they abound and are large, stout strong gear is very necessary, for they grow to a great size. Couch 'was told' of one in Scilly weighing 124 lbs. Others have been reported of about 60 lbs. Up in the Orkneys these fish are very common, and are also abundant on the West coast of Scotland. A great many are caught off the Yorkshire coast. On the South coast of England they favour Cornwall

has ever been placed on record. On the table before me is a round zinc flask, on which is inscribed the following legend: "Royal Irish Fisheries Company. This flask, containing two glasses of an ardent spirit, was found in the stomach of a ling, taken off Brandon Head, co. Kerry, February 1849. Presented by J. E. Stopford, LL.D., director, and W. Andrews, manager, to Mr. M. J. Ffennell, in testimony of their esteem and their sense of the services rendered by him as Commissioner of Fisheries." The flask, which was presented to my father, holds four wineglasses. With two glasses the flask weighed just 1 lb.—Yours, &c., HENRY FFENNELL.'

rather than Devon. They are numerous off the Scilly Isles, and are met with all round the coast of Ireland. Quantities of ling are salted and exported to Spain and Italy. Some people think highly of the flesh of these fish when fresh, particularly if baked with a sufficiency of seasoning.

The following quotation from a book of accounts dating from the beginning of the sixteenth century is interesting as giving some idea of the value of ling at that period: 'Item.—Pd. for half a hundred lynge, x*d*. Item.—For carrying of ye same lynge fr. ye Bulle to ye comon Stath, iiij*d*.'

The POWER or POOR COD and the TORSK are the only two other members of the Cod family which need be mentioned in a work of this kind. Torsk, by the way, is a name which in Norway is applied to several varieties of codfish; in fact, it is the Norwegian for cod. Being once saddled with a man whom I wished to abuse politely at intervals, with the object of keeping him up to his work, I made inquiries locally for the most suitable Norwegian expression. I was told that 'gammel torsk,' i.e. old codfish, would probably answer my purpose; and I may say that I used it with great success. When the old fellow's thoughts went woolgathering and he began to place the boat where my fly ought to be, or let it down on to rocks, a gentle application of 'gammel torsk' always stimulated him to fresh and more careful exertions on behalf of the creel. The incident is mentioned not as a fisherman's yarn or to raise a smile or to excite wonder, but as a piece of valuable practical information for the benefit of the Englishman in Norway.

English naturalists apply the name torsk to *Brosmius brosme*, the *tusk* of the Shetlands. Off the American coast I believe the same fish is sometimes called *cusk*. It is not common in English waters, but is very plentiful on the coast of Shetland. In shape these fish somewhat resemble ling, but are blunter in the head and have only one back fin, which extends from the root of the tail to a point level with the edge of the gill covers. It also has the barbule which is common to most of the Cod family.

The POWER COD (*Gadus minutus*) is very common on some parts of our coasts, particularly off Cornwall. It possesses various local names, such as *white eyes*, *power*, *ribben-pout*, *pouting*, and *giligant*. It is an exceedingly small fish, closely resembling whiting pout, but somewhat longer in body. It is common on the coast of Devonshire and Cornwall, will take the same baits as the whiting pout, and is found in the same localities. It is reckoned of no great value as food, but if eaten the day it is caught is sweet and pleasant to the palate. It is by no means a bad bait for conger.

CONGER (*Conger vulgaris*), for we may now leave the great *Gadidæ* family, were insensibly led up to by the consideration of ling. From time immemorial congers have been both the delight and despair of naturalists, particularly in the matter of their breeding habits. The ancients had most curious views on this subject. In Aristotle's 'History of Animals' it is declared that eels have no sexes nor eggs, and that they arise γῆς ἔντερα. Oppian thought that eels embraced, and that the slime from their bodies fell to the bottom and vitalised in the mud; but those, by the way, were freshwater eels. Pliny declared that these fish rubbed against rocks and a new breed arose from the detritus. One of our most learned professors of biology wrote a paper not long since gravely stating that in all probability congers spawned once and then died, acting in fact like butterflies. It seemed he had been watching over some congers kept in an aquarium, and the females, so far as I could understand his experience, all died from being eggbound. It is a curious fact that before this happened the bones of the head became soft as cheese. I must say I do not see how any absolutely trustworthy data can be obtained as to the breeding habits of fish from observations made in an aquarium, where the fish do not live under natural conditions. Two other points were noticed with regard to these congers kept in captivity—when gravid they shed teeth; and there appeared no fixed season for this interesting condition, one or more females

being found gravid during every month of the year except November.

There are certain small creatures living in the sea called by naturalists *Leptocephali*, the variety found in British waters being *Leptocephali Morrisii*. M. Yves Delage observed at Roscoff that one of these little creatures grew into a conger eel; and I may say here that one of the most recent discoveries connected with *freshwater* eels is that another of the *Leptocephali* is the silver eel in its larval condition (*Leptocephalus brevirostris* it has been named), and, curiously enough, it has only been found in the Straits of Messina. The little creatures which grow into *conger* eels have been known to naturalists for a good many years.

There are in the commencement of a conger's life-history three stages before the fish takes the form under which it is so familiar to us. The first is a tænioid form with long and fine teeth; then these teeth disappear; and finally we get the third form, in which the ordinary conger's teeth begin to develop. One of the most extraordinary points about the transformation is that the little creature grows smaller as it changes into a conger proper. Mr. J. T. Cunningham, who is one of the naturalists of the Marine Biological Association, states that a larva five inches in length develops into a three-inch conger, and that the transformation may not take more than a month.

Like trout, conger vary very much in colour, according to the bottom on which they are caught, and they are caught anywhere and everywhere. Generally speaking, their haunts are among rocks, but when feeding at night they leave their cavernous retreats and travel long distances over sandy and muddy bottoms in search of food. Deep water is usually believed to be essential to the capture of big congers, but at night I have caught large ones, and hooked and lost still larger (a common experience), in a couple of fathoms of water.

If the number of eggs is any criterion, congers must be extremely prolific. In a female which died in the Southport Aquarium were found over six million, the eel weighing only

15¼ lbs. The growth rate of congers is extremely rapid, not only in the sea (pure presumption), but also in aquariums (a well-known fact). In the Southport Aquarium these fish have grown from 7 lbs. or 8 lbs. to 25 lbs. or 30 lbs. in about sixteen months, and one monster attained the weight of 90 lbs. in five and a half years. There are many stories of congers being caught weighing over 100 lbs. One of that size would certainly be an unpleasant customer to have on board any small boat.

On the edibility of sea eels opinions differ, but most of us who have indulged in 'real turtle' at a London hotel or restaurant have unconsciously imbibed conger extract. In Scotland eels of all kinds are abominated, being regarded in the light of serpents, but in Wales pickled conger is a very favourite dish. Both on the Welsh and Scotch coasts, and round the Channel Islands and Ireland, conger are very plentiful.

To give an idea of the voracity of these enormous fish, one of 58½ lbs. and over six feet in length was caught at Portrush in 1876. It was endeavouring to swallow a salmon of 6 lbs., which had been caught in a net. There is, indeed, hardly any fish which they will not attack, including their own species; and at the Southport Aquarium the only other remaining inhabitants of the conger tanks were skate, large turbot, sturgeons, and angel fish.

Conger not only eat, but are eaten. A strange scene occurred upon the beach of Colwyn Bay in April of 1881. A porpoise chased one of these creatures with such effect that the eel ran ashore and began to climb the beach. It was captured by a Captain Davis, who had quite a set-to with his marine visitor. According to Templeton, a very large number of congers were killed by their own greediness on the coast of Rathlin by gorging themselves with salt herrings, of which an all too plentiful supply came sinking through the water from a wrecked vessel. Congers are extremely sensitive to cold, and I have heard once or twice of large numbers having died in frosty weather. This, I think, possibly may have happened

during an early frost before the fish had retired to deeper water for the winter.

To be very successful with conger, it is usually necessary to fish at night. Then do these great eels leave their fastnesses among rocks and tangle, and roam about seeking what they can devour. It is not necessary at night to be actually fishing over rocks, but it is as well to be near them. The very large conger are mostly caught in deep water, but fish up to 12 lbs. or more are often numerous close inshore a little below low-water mark, in two or three fathoms of water at the lowest spring tides.

There are few baits which conger will not take. Among the best are fresh squid; cuttle treated like a beefsteak—that is, well beaten to make it tender; a piece of mackerel, pilchard, herring, or sprat. Unlike the bass, the conger has a decided preference for a soft fresh bait, a fact which should be remembered. It is as well to take the bone out of the bait, for congers are not partial to anything hard; and if we could do without the hook so much the better, but that seems out of the question. But I would say as to the hook, for this same reason, that it should be no larger than is required to hold a large conger. When the fish are biting shyly it is a good plan to use a rather smaller hook than ordinary, burying it well in the bait, and giving the fish plenty of time. The hook shown in the illustration on p. 67 is the largest I have ever found necessary, and I have caught many a conger on hooks much smaller than that shown. I had, for instance, a very lively twenty minutes with a conger of 7 lbs. in a strong tideway when angling for flat fish with a fine gut paternoster and the little hook illustrated on p. 370. A friend of mine was still more fortunate, killing a 14½-lb. conger on a single lake-trout gut. But, all the same, gut is not the right material to use when making up tackle for conger.

There are two, and very opposite, ways of defeating the attempts of the conger to bite through the line. The snood may be made so hard that it cannot be bitten through, or it may be so soft and yielding that the fish's teeth get buried

without severing it. The hard or protected snooding may consist of stout gimp, or a piece of ordinary hemp snooding bound round with copper wire, which is, after all, little less than home-made gimp. The soft snoodings are made of a number of very fine strands of soft hemp, all tied on to the hook and knotted together at short intervals, or loosely plaited in the manner illustrated on pp. 67 and 250.

Another conger snooding which is used by professional fishermen is made in the following way: Take a piece of ordinary fishing line as strong as may be required. This may seem rather indefinite; but what is meant is that the strength must depend upon the size of the conger expected. For fishing in twenty or thirty fathoms of water at night, over a place known to contain a number of very large conger, strong lines must be used; but if we are fishing close inshore where the fish only run up to as much as 14 lbs. or 15 lbs., the majority varying from 2 lbs. to 5 lbs., the line may be comparatively fine. In any case the snood should be finer than the line above it. Having decided on the right size for this piece of snooding, which may be about three feet in length, untwist an inch and a half of the end and whip it on the shank of the hook very strongly with well-waxed hemp twine. Then, straining it tight, plait over it (starting at the hook end) strands of green hemp which may be obtained at the ropemaker's. The ends of the green hemp can easily be pushed under the strands of the snooding when a couple of feet have been covered in this manner.

Amateurs rather favour good new gimp, which is fairly flexible, for conger snoods, but it must be liberally supplied with swivels, and even then I hear that it often comes to grief. The best way of attaching it, is to use a hook with a large turned-down eye. Insert the gimp through the eye, unravel half an inch of the end, wax it well, squeeze it on to the shank, and then bind it round very securely, first with well-waxed thread or fine silk line, secondly with a protective whipping of copper wire. To those who do not believe in eyed hooks used

in the ordinary way, that is, with the snooding knotted to them, I strongly recommend this little dodge of inserting the snood through the eye and whipping it to the shank. It is infinitely more lasting than a whipping on the ordinary hook, which always comes undone sooner or later at the end of the shank.

The last time I was conger fishing I had no gimp nor snoods of the usual kind with me, so prepared some by making a three-plait of ordinary eight-plait tanned hemp pike-line, and that is the actual snood engraved on p. 67. More recently, when I came to see some of the tackle used by Mr. Harmsworth for tarpon fishing, I was much interested to find that one kind of snooding for those gigantic herrings was made in a similar manner. The tackle for conger above the snood is of the simplest kind. If a hand line, it should be a very strong one, terminated with a boat-shaped lead, and, below the lead, a swivel and three feet of snooding ending with the hook. This arrangement is suitable for fishing over rocks, where the bait must not be allowed to lie quite on the bottom, for fear of entanglements. Where there is no likelihood of a foul the lead should lie on the bottom, but in that case the snood should not be fastened to the lead, but six inches above it—paternoster fashion; otherwise, the fish has to move the lead before the bite is felt by the fisherman.

Over rocks where the fish run large, if a rod and reel are used, the former must be short and very powerful. They certainly enable the fish to be hooked with greater certainty than does the hand line. But for very big eels a stout hand line and snood, with which you can safely play the game of 'pull devil, pull baker,' is almost necessary. Outside the reef, where the bottom is sandy, there the rod can always be brought into play with advantage. In any case have out a hand line with a big hook and big bait—e.g. a whole squid—for any chance monster which is passing; but on the rod use somewhat finer tackle and smaller hooks and baits, and it will be found, I think, that nearly double as many conger will fall to the rod as to the hand line, for congers are shy, cautious

fish, and, particularly if there is much moonlight, are prone to observe coarse tackle.

One of the most important items of tackle which should never be omitted is a strong swivel. In the hand line it should be placed immediately below the lead; with the rod it will come at the end of the hook link. I am assuming that paternoster tackle is used, such as is illustrated on p. 218, the upper hook being omitted. The main length of the paternoster should consist of three strands of the stoutest salmon gut twisted; and the hook links should be of plaited line or of gimp, attached to eyed hooks in the manner already described.

Obviously, if fishing over rocks, great care should be taken not to let the conger get into any nook or cranny, or on the bottom. Once there, it will be very difficult to dislodge him. The only way of doing this is to keep a strong and continuous strain on his mouth. Jerks and irregular pulls are of little avail; they doubtless give him sudden pangs akin to toothache, which cause him at the end of each to retire deeper still into his fastness. But keep a steady strain on his mouth, and, sooner or later, he loses heart and yields. It is, however, very difficult to do this when there is a little lop on.

On sandy or other clear bottom the conger will play, for the most part, like any other fish; but both he and the freshwater eel have a nasty habit, when all other schemes for their deliverance have failed, of twisting round and round in the sea like the propeller of a steamboat; then it is that the swivel is useful. Many a large conger is caught on a long line laid near the rocks, and the short snoodings of such gear should always be fitted with strong swivels. The lines should be taken up before daylight, as immediately the surf rises the congers redouble their efforts to escape. Both the long line and the snood attached to it, intended for conger, should be sound and strong. The main line should certainly be not less stout than the North Sea line, No. 3, illustrated on p. 263. The snoods should be two or three feet in length and placed seven to nine feet apart. Very heavy stones will be required to weight this line,

as the fish it is intended to catch are among the strongest that swim in the sea. The hooks should be the same as those used on the inshore line (see p. 385), and well covered with bait, or the conger may reject them.

It is no easy matter to get a very large conger on board in the dark. A landing net, unless of enormous dimensions, is hardly any use. A stout gaff on a strong stick is the best thing for the purpose. I say stout, for a 20-lb. conger would easily twist or break a gaff which would be strong enough for a 30-lb. salmon. It is not a bad plan to have in the centre of the boat a large basket in which to drop the fish. It is a great mistake to hold them up by the snooding. In a basket on the floor of the boat they are far more quiet than when dangling in the air. A sharp blow on the head with a well-leaded knob-stick, or some such implement as my 'priest' (see p. 173), is very necessary before any attempt is made to dislodge the hook. A sharp blow on the tail of the eel, which is slanting and slippery, and very difficult to hit, is also effective. With an eel of a moderate size it is a good plan to put one's left hand on its neck, the right hand in the middle, wave the tail in the air, and bring down sharply on one of the thwarts. A stout knife with a pointed blade should be stuck through its brain as soon as it has been stunned.

A sea-fishing friend of mine had a curious experience with a big conger. He had set a small long line or trot for soles in a Manx bay. The snoods were of cotton, and fine. A codling of a pound took one of the baits, and a conger six feet long the codling. For reasons which it is not easy to explain the big fish easily allowed himself to be coaxed by means of a gaff into the small dinghy, which had three men in her, a basket or two, and a lot of lines. Then, and not until then, he awoke to his position and caused confusion unbounded. Indeed, every-one concerned had a lively time.

For night fishing a lantern is very necessary, both as an indication of our whereabouts to other vessels, and to enable the tackle to be handled with some degree of comfort. Those

who handline should be most particular not to allow coils of line to get on the bottom of the boat, otherwise an eel will surely find them out, and save the lives of many of his kindred by placing that line out of the running for one night at least. Those who are used to eels dislodge the hook easily enough; but the beginner should certainly study to kill his prey before attempting the disgorgement, and will be well advised to furnish himself with a fish gag of some kind or other.

At night and where fishing can only be carried on for a couple of hours during the ease of the tide, and time is extremely important, it is a capital plan to make up a number of snoods, and have on the main length of line a hook swivel, to which they can be quickly attached; then, immediately an eel is caught, drop him into the basket, unhooking the snood and putting on another one. This in many instances will save a great deal of time. In lieu of the hook swivel, the snood can be made fast to the line by the useful knot which I have explained in Chapter VIII. p. 264. By merely pulling the end the knot instantly comes undone, and the snood is released from the line.

If a great many congers are caught, there is no cause to waste them. They are not such excellent food as the silver eel of our rivers, but the part next to the head is by no means bad eating if stuffed, and stewed with a good gravy flavoured with port wine. In any case the conger makes an excellent stock for soup, any fishy flavour being absolutely non-existent. I have a pleasant recollection of a very nice dish, something between soup and water souchée, compounded by a Welsh cook. The stock for it was made from conger, and in it was chopped parsley and fragments of sand dabs. I was told that congers kipper well, but have not yet tried the experiment.

DOGFISH swarm all round our coasts, and their big cousins the sharks, of various species, are less uncommon than is generally supposed. Many a saltwater angler has had his gear carried away by BLUE SHARKS (*Carcharias glaucus*), which in appearance closely resemble very large dogfish. They doubtless take their name from their colour, the back and upper

sides being a dark blue, shading down to white on the belly. The snout is green. They are quite common off the Cornish and Devon coasts, and are detested by the pilchard fishermen, into whose nets they sometimes plunge and roll themselves up amid the meshes, causing dire destruction of valuable property. I have known them taken on conger lines in the Bristol Channel. They are also caught occasionally on the Scotch coasts, and are more or less common all round Ireland, particularly on the southern shores.

These voracious beasts sometimes grow to between twenty and thirty feet in length, but in British waters are very rarely of a size to do injury to human beings, unless, maybe, when brought into a small boat they knock the fishermen overboard by a blow from their powerful tails. Immediately they have been captured they should be knocked on the snout, or otherwise despatched.

Sharks are as tenacious of life as cats. Couch tells a delicious story of one which, being returned to the sea after its liver had been cut out, chased a mackerel. This story has been repeated in popular natural histories, but I confess I do not believe it. Doubtless the mackerel and the shark were swimming in the same direction, and there the pursuit began and ended.

The TOPE (*Galeus vulgaris*), another shark, variously known as *white-hound*, *penny-dog*, and *blue hornless dog fish*, is a very similar creature. In an old book, the 'History of Harwich,' by Dale, this fish is termed the *Sweet William*. Pennant imagines the name was conferred upon it ironically, its flesh being offensive and smelling rankly; but once, when fishing off Deal, the man with us described a spineless dogfish which I had just caught as a 'Sweet William,' and said it was very good eating. Possibly it was one of these topes—I did not take much notice of the fish at the time. In appearance it resembled a small blue dogfish, but was without that sharp spine which inflicts such dangerous wounds. We caught some of the spined dogfish, also some nurse-dogs, as they are termed

locally. These also are eaten at Deal, but the spined fish are considered worthless.

Topes are plentiful off parts of the East coast, and are caught in considerable numbers during the summer months. They are, strictly speaking, sharks, and not dogfish. Off the coast of Devonshire and round Ireland they are common fish, but less numerous in Cornish waters. One of the largest specimens on record was caught in Dublin Bay, and measured seven feet in length.

The HAMMER-HEADED SHARK is an extraordinary creature which takes its name from the very peculiar shape of its visage, an eye being at each end of the hammer head. These remarkable fish are only occasionally caught in British waters. When large they are fierce and voracious. An enormous specimen, measuring over ten feet in length, was once taken in Carmarthen Bay.

The SPINOUS SHARK (*Echinorhinus spinosus*) is another occasional visitor to our coasts. It is easily distinguished from all the others by reason of a number of bony scales, from which grow spines or claws not unlike those found on the thornback. The largest specimen I ever heard of was one measuring nine feet in length, caught off the Eddystone in 1869.

The THRASHER (*Alopias vulpes*), also called *slasher*, *sea-fox*, *fox-shark*, and *sea-ape*, is a shark caught now and again on the Cornish and other parts of our coasts. Its peculiarity is an enormous tail-fin which is sometimes as long as its body. With this it is popularly supposed to thrash the water for such purposes as driving away dolphins, and herding together shoals of fish. In 1865 Mr. Blake-Knox is said to have seen one 'kill a diver with its tail and then swallow it.' (Which, the tail or the diver?) Many observers have declared that the thrasher uses its enormous tail to flog whales to death, and though this remarkable peculiarity has been doubted, yet evidence in support of the statement is very strong. Very long thrashers have been caught off the coast of England, but their length is

misleading, being made up of more than half tail. There is on record a Plymouth thrasher of fourteen feet, and one of a similar length was caught off Dawlish.

The BASKING SHARK (*Selache maxima*) is of far greater importance commercially than any of the species already mentioned, but from the angler's standpoint it is a useless creature. It affords sport nevertheless, being easily captured with the whaler's weapons. Its name is probably derived from its habit of lying quietly near the surface of the water. Sometimes it swims about with its dorsal fin well in view, and hence also gets the name of *sail-fish*. Off the Irish and Welsh coasts large numbers are sometimes seen and harpooned. Lowe gives an account of a basking shark which paid a visit to Stromness Harbour one day. It cruised about, from time to time showing its back fin, and occasionally a large portion of its body, above the surface. It seemed to take no heed of the boats which came near it. In the end it was harpooned and lanced. It measured twenty-three feet, and six barrels of oil, which is of considerable value for commercial purposes, were obtained from its liver. Another very large shark was caught off the Isle of Wight. It measured twenty-eight feet in length, and allowed itself to be dragged ashore. At one time it was an extremely common shark in the seas surrounding the Orkney Islands, but it is now comparatively rare except when some wandering shoal visits the coast. Having regard to the ease with which it is captured, it is a fish likely to be exterminated in due course.

Another shark which is sometimes caught on our coasts is the PORBEAGLE (*Lamna cornubica*). In shape it is not unlike the basking shark, being well rounded and portly, but lacks the projecting spotted nose of the basker. In colour it is more often than not a dusky green on the back, lightening to white on the belly. During the summer and autumn porbeagles visit the East coast of England and Wales. They are reputed cunning and fierce, but are occasionally taken on long lines when attempting to rob the hooks of a captured whiting or

codling. When one is captured, it is not an uncommon thing to find in its stomach a number of fish-hooks and a spinner or two. In 1881 one of these fish measuring seven and a half feet in length was caught at Wick. A porbeagle of eight and a half feet was once brought into Margate, and one about the same size was captured off Hastings.

Foreign sharks hardly come within the scope of this portion of the book. How they are taken by the simple method of lowering a huge hook fitted with a chain and swivel and baited with a piece of salt pork is common knowledge. Sailors say that when a vessel is going at any considerable speed it is next to impossible to catch a shark from it. Possibly these cunning creatures know it is not a natural thing for a piece of pork or other bait to be dashing along through the water. They will follow it for some distance, but will not take it until it is eased off to them, when it has the appearance of something which has fallen from the vessel and is being left far astern. Very often sharks are accompanied by two little pilot fish, which appear to be a kind of an advance guard.

Surgeon-General Paske, in an interesting book relating to sea fish, called 'The Sea and the Rod,' written by himself and Mr. F. G. Aflalo, describes how he once succeeded in catching one of these pilot fish in a bucket let down over the side of the vessel. A peculiarity of sharks and dogfish which I have not mentioned is that they have eyelids, and, on being brought into a boat, open and shut their eyes in most human fashion.

Sharks and dogfish, though held in detestation by British fishermen, and with good reason, still have their uses. A valuable oil is extracted from their livers and gelatine from their fins, while the skins of some species make excellent sand-paper. In the market of Canton the prices of shark fins, which the Chinese regard as a great delicacy, are regularly quoted; and extensive shark fisheries are carried on in various parts of the world for the purpose of supplying China. In Sydney shark fins have fetched as much as 28*l.* per ton.

Off Iceland a fleet of about a hundred boats is employed in capturing sharks for the sake of their livers only. The bodies, after the livers are extracted, are thrown away. The hooks used by the Icelandic fishermen vary from twelve to eighteen inches in length, the baits being seal blubber and horseflesh. Between the line, which is an inch and a half in diameter, and the hook is a couple of yards of strong chain. I have heard that the sharks at first appear shy, the fishermen often having to wait long for a bite. But as likely as not this is when the fish are not present, for as soon as one is caught others follow in rapid succession, giving the impression that a shoal has suddenly come up and discovered the bait. The bait is held quietly about two fathoms above the bottom.

As shark oil is imported into England, and gelatine is not unknown in our islands, it will almost seem as if our fishermen, when harassed by shoals of large dogfish or sharks to such an extent that the fishery is for the time being stopped, might set to work and capture a load of these common nuisances and get some satisfaction out of their livers and skins. There is an instance on record of a long line being raised bearing on its hooks nothing but skeletons, which the fishermen tied to their rigging, and sailed into port with these strange adornments. Dogfish were supposed to be the culprits, but I rather suspect the wormlike fish which annoy the fishermen off the coast of Northumberland by entering the mouths or gills of the fish on the lines and feasting on the interior, eventually leaving little except the bones.

Of small dogfish the three most commonly caught are the PICKED or SPUR-DOG (*Acanthias vulgaris*), the NURSE-HOUND (*Scyllium catulus*), and the ROUGH-HOUND (*Scyllium canicula*).

The common dogfish can hardly be distinguished from the 'Sweet William' previously mentioned, except by his defensive and offensive spines. He has several local names, such as *bone-dog*, *sea-dog*, and *hoe* in Orkney, and *skittle-dog* in Cornwall, but most common are *spur-dog* and *spiked* or *picked-dog*,

these three names evidently having reference to the spines. These spines inflict really dangerous wounds, so that the very best thing to be done with one of these fish is, to lift it in by line, landing net, or gaff, and drop it on the floor of the boat. Then place a foot on it to keep it still, chop off its head, and, taking the carcase gingerly by the tail, cast it overboard as ground-bait. In many places—West-country, Ireland, and the Hebrides—these fish are eaten either fresh, salted, or merely dried. Oil is extracted from their livers, and their garbage is good manure. They are simply ubiquitous, but are most plentiful in those waters most frequented by pilchards and herrings. Some thirty-seven years ago an enormous shoal of sea-dogs reached from Uig to Aberdeen.

The ROUGH-HOUND is most common off the Hebrides, Devon, Cornwall, and Ireland. It is variously named *row-hound*, *small* or *lesser spotted dogfish*, *curfish*, *kennett*, *daggar*, *huss*, *hund-fish*, *land-dog*, *suss*, and *morgay*. In shape it resembles the other dogs, but has a rough skin, a reddish brown or grey back marked with spots varying in colour—black, brown red and grey. This dogfish has no particular use except in respect of its skin, which makes good sandpaper.

The NURSE-HOUND, which is also called the *large spotted dogfish*, *bull-huss*, *bounce*, and *catfish*, resembles but is not so common as the rough-hound. The principal points of difference are in the skin of the nurse-hound being rougher and the spots larger. The two varieties are often confounded, in both senses of the word, by the fishermen. Its principal use is to bait crab-pots, but its skin makes excellent sandpaper.

Bream, though not particularly estimable on the table, rank rather highly among the sportsman's sea fish, being plentiful, biting freely and fighting gamely. They have, however, the disadvantage that they feed as a rule at night, except when the water is coloured after storms, therein resembling the fish of the same name found in fresh water, although of different genus.

The COMMON SEA BREAM (*Pagellus centroaontus*), to which

Pennant incorrectly gave the remarkable name of 'lunulated gilt-head,' is found all round our coasts, but more particularly on the south and west. It is also known as *sharp-toothed sea bream*, and in Ireland as *murranroe*, *gunner*, *barwin*, *carf*, *carp*, and *brazier*. I have on an earlier page told how I learnt one of these Irish designations. Bream are warm-weather fish, being mostly caught in summer and autumn. On the approach of cold weather they retire into very deep water. The large eyes with which they are furnished no doubt give them power to see at considerable depths.

Off Cornwall and Devon one of the most common fish is the CHAD (not to be confounded with the shad, for that is quite another fish), the young of the bream. They afford first-rate sport for the youngsters, being plentiful and bold biters, and are generally available as baits for other fish, such as pollack and bass. When chad are feeding they take baits not intended for them, and are an unmitigated nuisance; but they do not take so kindly to a strip of their species as to most other baits, therefore, having caught a few, cut them up quickly and use them on the hooks. When they have grown somewhat they are called *bogers* in Cornwall.

If a bream must be eaten, the following method suggested by Yarrell is probably as good as any. The process is, indeed, one which may be applied with advantage to any rather dry fish. First catch your bream, clean and wipe dry, but leave the scales intact. Flour it and broil it, and continue flouring if the skin cracks. When it comes to table the skin and scales can be easily removed, and the flesh beneath will be found fairly juicy. A friend tells me that 'baked with veal stuffing bream are excellent,' and I venture to add, 'particularly if well basted, and served with a sauce flavoured with port wine.' The same authority states that the flavour of bream soused in vinegar much resembles that of crab. The fresher bream are eaten the better.

There is very little difficulty in catching these fish, provided they are sought after at the right place and at the right time.

For their haunts we necessarily have to depend upon the local knowledge of professional fishermen. But deep water, over or near rocks and seaweed, is a likely place in which to find them. If, however, the water is discoloured, the fish come on to the shallows, and may sometimes be caught in as little as three fathoms. I have heard of some being taken at a less depth in Carmarthen Bay after rough weather, but these were comparatively small, not exceeding four pounds in weight. In exceedingly deep water—fifteen to twenty-five fathoms—where there is semi-darkness owing to the depth, bream will feed in the daytime, but not so well as at night. I have heard of daylight catches of fish of about four to five pounds in twelve fathoms of water.

Bream favour many baits, among their favourites being sand-eels, squid, pilchard, herring, mussels, ragworms, and the soft part of limpets, a small portion of the hard part being retained to help keep the bait in position on the hook. Indeed, they do not seem particular what they eat. Mr. Matthias Dunn has related how, in 1874, a grain vessel came to grief off the Cornish coast. Soon afterwards he caught some bream near the spot, and found them full of wheat. The fish were remarkable for their plumpness and good condition.

Strong ordinary paternoster tackle, such as that shown on p. 224, is very useful for sea bream; but perhaps somewhat better is a tackle similar to that shown on p. 352, with eight feet of snooding beyond the lead, and two hooks. The weight of lead must of course depend upon the strength of the tide. The depth at which bream are found is most uncertain. Sometimes they are close to the bottom, at others in midwater, and occasionally they may be seen breaking the surface, when they have even been mistaken for pilchards. Most frequently those of a size shoal together. The size of hook to be used necessarily varies very much. For the little chads the smaller of the two hooks given in the illustration should be tried, while for large fish in very deep water the larger hook shown would be about the right size. In the daytime the tackle should be

much finer than at night. Be provided with a large landing net. They are a difficult fish to gaff.

There are several varieties of bream found in salt water, most of them resembling one another in shape. First, perhaps, in importance is the PANDORA, or KING OF THE BREAMS (*Pagellus erythrinus*). This is a gorgeous scarlet fish, shaded with orange, and when fresh caught, with purple and silvery sheens glistening about it. Sometimes it has blue spots. Day considers that the fish named BECKER by Couch is a deformed or mutilated example of the Pandora. It is by no means an uncommon fish in British waters on the south and west coasts of England, but is not often found in the north. It does not swim in such large shoals as the common bream, but otherwise in its habits closely resembles that species. The term GILT-HEAD is often applied to the common bream, but it more properly belongs to *Pagrus auratus*. Pennant was apparently the first to confuse the two species. The true gilt-head is a silvery fish, the peculiarity from which it derives its name being a crescent-shaped band of gold crossing its head between the eyes. It is more common in the Mediterranean than in British waters.

BREAM AND CHAD HOOKS

The BLACK BREAM, sometimes called *old wife* and *baker* (*Cantharus lineatus*), are caught during July and August in shallow waters, but on the approach of autumn retire to the deeps. They are often taken on drift lines, are a strong, handsome fish, and feed more boldly by daylight than the common bream. They take much the same baits, but are not found in such large schools, and in far shallower water.

There are some other varieties of these fish which are more or less uncommon on our coasts. For instance, Couch's SEA BREAM (*Pagrus vulgaris*), which is anything but vulgar, there being so far only a single undoubted British example; *Pagellus Owenii*, called by Pennant the RED GILT-HEAD; and *Pagellus*

*acarne*. Naturalists, by the way, do not class the sea bream in the same family with the bream of rivers, the latter belonging to the carps and the former to the *Sparidæ*. While in general outline the sea bream resembles the freshwater fish, it differs from it in having a formidable dorsal fin extending nearly the whole length of its back, which is well furnished with spines like that of the perch.

GURNARDS or GURNETS, as they are variously called, have perhaps the most remarkable appearance of any of our marine food fishes. Their characteristics are a square, massive, bony head, with a body rapidly diminishing towards the tail; on the back two dorsal fins, the one nearer the head spiny and resembling that of a perch; two enormous ventral fins, which in one variety are fringed with a bright metallic blue; and six leg-like feelers projecting from the throat, with which the fish partially lifts itself from the bottom as it crawls along searching for food. Some varieties of gurnards give vent to strange croaking sounds when first hauled above water line, and for this reason the Italians call them *organo* and the French *grondin*. With regard to their breeding habits, they spawn in the spring; and their eggs, like many others of the food fishes, are pelagic, floating on or near the surface of the sea.

The two varieties of red gurnard which most commonly fall to the lot of the angler are *Trigla cuculus*, which is the RED or CUCKOO GURNARD, also called the *pine-leaved gurnard*, *soldier*, and *elleck*; and *Trigla hirundo*, the SAPPHIRINE GURNARD, the *tubfish*, *tubbot* or *latchet* of the East coast, also called *smooth-sides*, *red tubs*, and *sea-crow*. These two fishes can be distinguished without difficulty, for the Sapphirine has a very beautiful bright blue margin to its huge pectoral fins, and is of a brighter red than *Trigla cuculus*, which inclines to be rosy.

The red gurnard is common on the English coasts, particularly those of the south and west, and on portions of the Scotch and Irish coasts. The Sapphirine or Tubfish is the larger of the two species, attaining a weight, according to Thompson, of about fourteen pounds.

If gurnard are plentiful there is no difficulty in catching them. They will take the ordinary whiting baits, and are particularly partial to a piece of mackerel; indeed, when the mackerel breeze has died away and our little craft has been barely moving through the water, our leads now and again bumping on the sandy bottom, many a time have I hauled up either the red gurnard or a large tubfish. Though these fish are most distinctly bottom feeders, they are found occasionally at all depths, and have a habit of ascending to the surface and throwing themselves out of the water.

GREY GURNARD, or HARD-HEADS (*Trigla gurnardus*), are very common fish on some parts of the coast in certain seasons. In Scotland they are often called *gowdies*, *girnats*, and *crooners*, and the Irish name for them is *knoud*. As their name indicates, they are mainly grey in colour. There are very few places round the coast of Great Britain and Ireland where they are not found at times, often appearing on the coast for a month or two and then disappearing for the rest of the year. I remember Filey Bay being full of them for a few weeks in August, as many as a hundred being caught in an hour or two on one paternoster. Very large ones are found in the sea lochs of the west coast of Scotland. Once when engaged in this fishing I hooked a small flat fish, and was bringing it to the surface when I saw a grey gurnard following it and biting at its fins. Having unhooked the dab, I rebaited, began to lower my line, and before the lead reached the bottom caught a gurnard; whether the same one or not, of course cannot be determined with certainty.

In the Bait chapter I have pointed out the uses of gurnard skin. Pieces of the fresh grey gurnard are in many places good bait for haddocks and other fish. As food I consider it very superior to the red gurnard, but a clever cook can do much with either of them. Their flesh certainly inclines to dryness. Among the best methods of cooking the grey gurnard is to remove the flesh from the bones, stew in stock, and serve *à la maître d hôtel.*

The red gurnard is by no means bad if stuffed, placed belly uppermost with some ham fat lying within it. The savour and moisture of the ham permeate the fish as baking proceeds.

There are one or two varieties of gurnard which are comparatively scarce in British waters. These are the LANTHORN (*Trigla obscura*); the PIPER (*Trigla lyra*), which may be known by its having a forked or divided nose, and being in colour a bright red; and the STREAKED GURNARD (*Trigla lineata*), which is curiously marked with fine red lines running from the back to the belly. It is a deep red colour.

The WRASSES are among the most beautiful and at the same time most worthless fish found in the sea. No pen can properly describe the beauty of some of these fish when they are first brought out of the water, their marbled sides glistening in all the colours of the rainbow. One of the most common varieties is *Labrus lineatus*, termed by Couch the GREEN WRASSE or GREEN STREAKED WRASSE. It has various local names, such as—in Scotland—*ballan wrasse*, *sea-swine*, and *bergle*. In Yorkshire it is variously called *ancient wife*, *old ewe*, *servellan wrasse*, and *sweet-lips*; while the Welsh term it *gwrach* or *old woman*. *Old wife*, it will be remembered, is a name also given to the black bream. Wrasse are rock fish, and if of any size are commonly found in fairly deep water. In shape they are not unlike the tench. Their colouring is as various as it is beautiful. The background may be brown, green, or blue. On the yellowish fins are orange rings—but I find myself quite unable to describe the markings and colourings of these most lovely fish.

Most people who care to taste wrasse will, I think, take my view as to their worthlessness, for they are watery and insipid. But, according to McCalla, they are esteemed in Galway, and Lowe describes them as being much prized in the Orkneys, where they are eaten fresh. In waters nearer home the chief use of the wrasse is to be cut up and placed as bait in lobster and crab pots. In some places they are made into soup, which has been described to me as the nastiest soup of all soups.

At Portland a compound is made occasionally, known as conner pie—conner being one of the many local names given to wrasse.

A perhaps still more beautiful wrasse is the *Labrus mixtus*, which glories in yellow, blue, orange, purple, and black. It differs from the Ballan wrasse is not having the perch-like bars of colour on its sides. In Cornwall it is termed the CUCKOO FISH, and I heard an Isle of Wight fisherman describe one I had caught as a *Jerusalem cuckoo*. *Blue-striped wrasse*, *cook-conner*, *livery servant*, and *livery fish* are local names. The female is peculiar in having three dark blotches on its back near the tail, so is sometimes called the *three-spotted wrasse*, and also *red wrasse* and *flesh-coloured wrasse*. It is a common fish off Devon and Cornwall, but comparatively rare further north.

There is a beautiful little wrasse which also bears the name of the CONNER. It is likewise termed *Gilt-head*, a name, it may be remembered, also conferred upon one of the sea breams. *Golden maid* is another alias for it. Naturalists call it *Crenilabrus melops*. It may be easily known by about eight or nine wide, dark brown, vertical bands which almost completely encircle it. The dorsal fin is for the most part spined with scallop-shaped depressions between each spine, but it terminates with a non-spinous fin on which are a number of round light-coloured markings. On its anal fin are three rows of black spots. Several varieties of this fish have been found having various markings, but all bright and beautiful. It is a small fish, specimens of a greater length than eight or nine inches being rare. It is not found as a rule in such deep water as the larger wrasse, and is often caught by those fishing from the rocks on the Cornish coast.

To those who would fish specially for wrasse I would recommend paternoster tackle with hooks strong in the wire, sharps as to their points, and not too rank in the barb, baited with lugworms, soft crab, mussels, ragworms, or any of the oily fish baits, such as mackerel and herring. So far as sport is concerned, these fish are to be commended, and as they are

usually caught over a rocky and weedy bottom they often have to be given the butt.

The DORY or JOHN DORY, which is one of the quaintest-looking fish that swim, is not, so far as I know, commonly taken by anglers. Naturalists call it *Zeus faber*. 'Dory,' no doubt, is derived from the French, and means golden; John Dory being probably a corruption of *jaune dorée*. It was a dory which, so says one legend, St. Peter took hold of when he was collecting the tribute, in evidence of which are the marks on the fish of the Saint's finger and thumb. But, like the haddock, of which the same story has been related, dories are not found in the Lake of Genesareth.

When a dory is seen cruising round a fishing boat, there is no better plan of capturing it than to pay out an unleaded line, baited with a small live fish. Couch tells a story of having caught with his hand a dory so gorged with food that it could not save itself by flight. He found within it twenty-five flounders, some of which were two and a half inches long, three father lashers—not to be confounded with the shark of that name—and five small beach stones.

Being a fish eater, it will of course take slow-moving whiffing baits which represent small fish, but a live bait is undoubtedly better. Chad, the young of the sea bream, should be tried when available. Care should be taken when handling dories, for they are armed with spines close to the dorsal and anal fins with which very nasty and sometimes even dangerous wounds are occasioned. Of the excellence of the John Dory on the table I need say nothing. One high authority ranks it next after the turbot, but I would certainly give it the first place. Sometimes it is boiled in sea water; in Italy spring water and wine are used. Small ones are occasionally baked, being well basted with butter; but this method is, I think, a mistake. One of the largest dories caught of late years was mentioned in 'Land and Water,' August 1879, as having been sold at Norwich. It weighed fourteen pounds. Couch records one of eighteen pounds.

The ANGLER or MONKFISH.—A book on sea fishing hardly seems complete without some mention of the remarkably ugly, voracious and nasty-looking creature termed by ichthyologists *Lophius piscatorius*, which consists mainly of an enormous head with a wide gaping mouth. Behind the head is a body of no consequence and a little tail. From the top of its head project waving filaments which, if naturalists err not, play an important part in providing it with food. Needless to say, a fish of this build is unable to give chase to any other fish that swims in the sea. As it must eat to live, it has a way of making for itself a depression in the sandy or muddy bottom by vigorous movements of its two powerful pectoral fins. There it rests as if dead, those tendrils from the top of its head, which are really elongated separated spines of the dorsal fin, playing backwards and forwards loosely with each movement of the water, and apparently dead and harmless. Various parts of the rugged and curiously marked body closely resemble common objects not exactly of the seashore, but of the marine pavement, and assist in the deception. On the end of each filament, which it waves with diligence on the approach of its prey, is a piece of fatally attractive shining skin. Sooner or later, little fish swim up to inspect the attractive bait, then wide opes the gaping mouth and the unfortunate ones disappear into that great maw.

I imagine, however, that the Angler—whom I will rather call Monkfish to avoid confusion—does not get a very satisfying meal by the both natural and artful means described. According to Couch, these fish sometimes come near to the surface. One laid hold of a hooked codfish which was being drawn up, and only released it on being struck by the fisherman. Sometimes they will endeavour to swallow cormorants and gulls, and one graceful sea bird succeeded in choking a monkfish three feet in length. Another fish absorbed a widgeon, but the bird was actually rescued alive. It would seem indeed, from the stories fishermen tell of these strange creatures, that monkfish are not particular. For instance, one swallowed the corks of a crab-pot line, which buoyed it up and led to its being

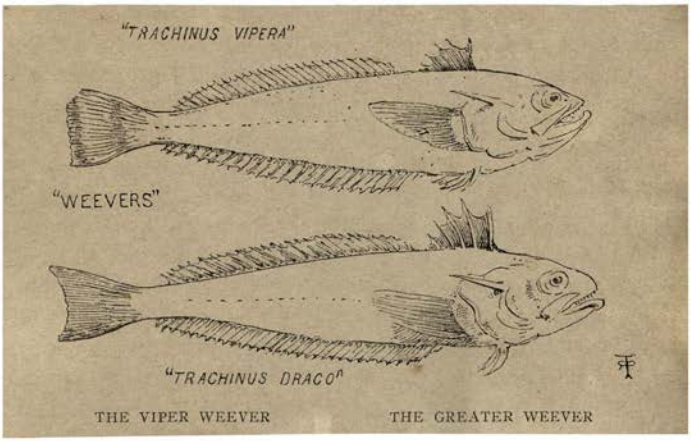
captured. Another monkfish seized hold of the head of a mop which was being stirred about in the sea by some fishermen near Queensferry, and, getting its teeth entangled in the wool, was brought into the boat. There is another beautiful story told by a Mr. Todhunter. Seeing a monkfish in shallow water near Youghal, he placed the butt of a whip he was carrying near its mouth. The fish grabbed it, held on like a bulldog, and allowed itself to be pulled ashore.

Among other names which have been given to these monsters are *frog-fish*, *toad-fish*, *sea-devil*, *nass-fish*, *wide-gab*, *friar*, and *briabot*. It is surprising that there are not more of them in the sea, for they seem to be most prolific. From a female fish, 4 ft. 6 in. in length, were taken over a million and a half eggs. Devil-fish are fairly common off Cornwall and in the North Sea, and a few are caught every year on most parts of our coasts. I have accounted for one only, of no great size.

No one is likely to fish specially for a sea-devil, and I know of no special tackle or bait which I can conscientiously recommend. If experience should be our guide, we may with advantage use either a mop-head, the butt of a whip, or the corks of a crab-pot. On the whole, however, I should prefer a herring, pilchard, or mackerel on a large hook fished close to the bottom. Having caught your sea-devil, cut him open and see what he contains. This practice with many sea fish leads to most interesting discoveries.

The two WEEVERS, the Greater and the Viper Weever, respectively called *Trachinus draco* and *Trachinus vipera*, are only mentioned here as fish to be avoided rather than sought after, for they are armed with most dangerous spines on the back, which inflict wounds sometimes necessitating the amputation of a limb. At the same time, to give the sting-fish his due, the greater weever is good eating, possessing flesh both firm and sweet. The drawings of these fish will, I hope, serve to identify them. It is the small or viper weever which is the more dangerous. The spines at the corners of the gills,

and also those in the back fin nearest the head, are grooved and convey poison into wounds which they make. Even after the fish is dead pricks from these spines cause serious injury. The sea fisherman who hooks one of these fish or finds any in his net should have no difficulty in avoiding these spines. The risks run by bathers, and children who paddle without sand shoes, are far greater. According to Couch, the fish are well aware of the weapons they possess, and use them on the slightest provocation. That naturalist described how from time to time he threw salt water over a greater weever




THE VIPER WEEVER THE GREATER WEEVER

which had been caught and was lying at the bottom of the boat, with the object of keeping it alive, and irritated it by touching it with a stick. Whichever part of the body the stick touched, the weever unerringly struck it with its spine by bending the body and throwing its head back with a rapid jerk. One of the best remedies for the bites of these fish is the application of sweet oil, to which opium may be added to allay the pain. In Whitechapel the greater weevers are sold as food, and are there punningly called Spitalfields weavers. In France they are valued as food, for their flesh remains without taint for a considerable time after they have been killed.

The Little Weever, or *sting-fish* (*Trachinus vipera*), is more common than the greater weever. They are not to be confounded with the father lasher or Greenland bull-head (*Cottus scorpius*), which is also called 'sting-fish,' in addition to the names of *sea scorpion* and *three-spined cottus*, and has spines which can inflict nasty wounds.

This brings to an end all that the space at my disposal will allow me to write of British sea fish, and the more sportsman-like methods of capturing them. I am inclined to apologise for sundry repetitions, but most of these seemed desirable in the interests of lucidity. So far as was possible, I have followed a careful arrangement of matter, but the seeker after information concerning this delightful branch of fishing will be well advised to diligently use the index.

There only remains for me the expression of a cordial wish that my readers' lines may be cast in pleasant places, that my shortcomings will be regarded with lenient eyes in a book which is in many respects a new departure, and that the information and advice given herein will lead to increased takes of fish and greater enjoyment in their capture than was possible with the clumsy methods of bygone days. Having said this, I make way joyfully for my brother contributors, and so end not with 'Finis,' but Farewell.

# CHAPTER XIV

## THE SEA FISHER IN FOREIGN PARTS

By WILLIAM SENIOR ('RED SPINNER')

So very wide a subject as this can only be treated generally. Data are scarce and casual. The traveller to foreign parts, however, may be recommended, in making preparations for possible opportunities of sport, to assume that any salt water in which he may cast anchor will be worth a trial. At Singapore I met a young Englishman who had laid down this theory on the chance of what it would bring, and he declared that the unexpected hours of sport he enjoyed well rewarded him for all the trouble he took; indeed, he said that the miscellaneous angling he had found in eastern and southern seas gave him materials for a big volume, and I besought him to write it for the encouragement of others.

The outfit he had prepared in England on setting out for his round-the-world expedition consisted of a variety of common metal spinners; assorted hooks, some on gimp, others on gut; indiarubber baits; a deep-sea line and a light one for harbours; a telescope gaff, and collapsible landing net. To this, which occupies little space in the baggage, I would suggest, a stiffish ten-foot greenheart rod, in four pieces, making a package of two and a half feet. It should be somewhat like the trolling rod used in pike fishing, of the best workmanship. This might be kept as a reserve; my Singapore acquaintance was very adroit in whipping bare hooks to any sort of snooding, and in extemporising a rod, but he confessed that he often felt the want of some independent armoury. Such a rod might

be serviceable for spinning from a boat, for legering on sandy bottoms, and for the too much neglected practice of paternostering. Baits are always to be found ; if not molluscs, then bits of fish, or fresh meat ; and there would be the metal spinners and indiarubber worms to fall back upon if small fish were not to be procured. I therefore repeat :—instead of wasting time in the unsatisfactory endeavour to obtain information about fish and fishing in foreign parts, assume that where the sea is it will be inhabited ; nay, that there are better fish in the sea than ever came out of it.

The advice just tendered applies to European waters with as much justification as to more distant seas. In the North Sea, or the poor sporting grounds of the Baltic, the angler will find it best to proceed on the broad principles which serve around the English coasts or the Channel Islands. Expanses of shallow with sandy bottom, rock-bound promontories or inlets, demand their own methods ; but I should imagine no sportsman would visit northern Europe for the express purpose of sea angling. Even the fiords of Norway, as the distance from open water increases, are indifferent grounds for him.

Nor is it much better in the Mediterranean, save in special parts ; and notwithstanding that this home of the tunny contains about three-fourths of the species (estimated at 650) inhabiting European seas. The native fishermen who use the rod take their tribute everywhere with more or less primitive tackle, though there are few coasts upon which modern improvements have not begun to supersede the rough-and-ready fashions of past generations. From the fragmentary accounts published in books of travel and the enterprising modern serials, it is evident that the visitor to the seaside resorts of the Continent need not leave his tackle at home. It may be assumed that wherever there are rocks there will be a variety of sporting fish, amongst which must be included mullet, gurnard, wrasses, small conger, and sea breams. The usual fish baits, worms, shell fish, and even paste (the mullet occasionally

taking this), are never out of season, and the artificial spinner, here as elsewhere, should be an essential of the equipment.

Though the beautiful line of shore which margins the fashionable Riviera is not a happy hunting ground, the patient sea fisherman with some knowledge of the movements of fish has often opportunities worthy of his attention. The varieties of fish are not as plentiful as they are further east, but even along open shores like that of Nice, fishermen of a humble type may be seen on the beach, opposite the most fashionable part of the Promenade des Anglais, patiently angling for grey mullet. Where better kinds are scarce, this highly respectable food fish is worth catching, since it always commands a good price in the market. Indeed, a mullet fresh from the sea, dressed with sauce *à la Provençale*, is a coveted dainty in the French, Italian, and even London restaurants when the fish are in season. The native anglers at Nice are a rough and ragged lot, who go to their work bare-legged. They use a stiff two-jointed rod from fifteen to seventeen feet long, a serviceable home-made implement which does not involve them in expenditure at the tackle shop: they have simply to cut the cane almost at their own doors. The bamboo in any part of the world makes an excellent rod, and it is all the better when it can be used in a single piece. The Nice men like a butt about an inch and a half in diameter in the thickest part, lessening to three-quarters of an inch, the second joint being fitted from a younger shoot tapering to a point. The bamboo before use ought to be well seasoned, and in Italy and all the way east the two joints are sometimes connected by a rough ferrule; but more frequently the cane sections, as in China and Japan, are made to fit into one another. When this is done the transaction is signed, sealed, and delivered by tight whipping with strong wax thread to avoid splitting. This, of course, would not be a rod fit for salmon fishing, and it is deficient in what the connoisseur would call action. But it answers the purpose for which it is used passing well. From the point of the rod a wire, twisted

hair, or spunyard loop is bound, and the stout end of the line, like a hunting thong, is attached.

The fisherman at Nice has no bother with a winch, and therefore requires no stand-up rings. With his primitive rod he manages his fifteen or twenty yards of horsehair line, tapering from seven or eight to two or three strands, with considerable efficiency. Small round corks, like the pike fisher's pilot floats, are placed along the line, the first two or three yards from the hook, the rest dotted at intervals of four or five feet. An ordinary sea hook is snooded to the line, and the bait is one of the ragworms found near the mouth of the little stream which runs into the sea a few yards east of the pier. The fishermen must obstinately stick to the old plans, or they would have learned by this time that a finer hook, quite as strong, would be much more suitable for the inconveniently delicate character of the bait. The anglers stand close together, generally near the point where the little river enters the sea, and the fun is considerably increased by the habit of the sea mullet in feeding close to the shore. The angler, having baited, walks into the sea, hook in hand, and line coiled loosely round the rod. By swishes backwards and forwards the line is gradually released, and the man dexterously lets go at the right time, swings the baited line behind him, and with a neat forward sweep rends it out into the water outside the breakers. No lead is required when the fish cruise close to the surface. To the ordinary observer the cork which acts as a float gives no indication of a bite, but the keen-eyed native knows that the slight tremble signals a mullet at the bait. As the fish is slow in sucking the morsel into its mouth, it is allowed to go clean away with the bait, before striking.

The mullet caught in this way are sometimes as much as five pounds in weight, and the method is practically one of tight-line fishing on a sloping beach. Should the mullet take the fancy of going straight out to sea, as he often does, the angler has to wade in as far as he can, and take his chances of holding on when his limit is reached. It is easier when the fish head for

the breakers ; the angler then has merely to retreat up the shingle, keeping a steady strain on the line. The fish is ultimately landed, as salmon are often landed in Scotland and Ireland, by sheer haulage. The fisherman walks backwards, leaving one of his companions, who excitedly rushes down to secure the prize at the earliest opportunity. The sport is increased a good deal where three or four of the serried rank of anglers are each fastened to a fish, crossing one another, and fouling the lines.

The sea angling in the immediate neighbourhood of Genoa is described by a well-known authority, 'Sarcelle,' as lamentably discouraging. The favourite long bamboo rod is there used both by the man who gets his living by fishing, and the amateur who seeks sport. They use fine tackle, and fish from every rocky point. Though he had often watched them he only witnessed the capture of two grey mullet of about one pound each, and sundry small bream. In summer the professionals fish from boats at anchor, in from twenty to forty fathoms of water, and later in the year they use set lines baited with worms, prawns, or tiny squid. The game, however, is hardly worth the trouble, the produce apparently being small quantities of wrasse, bream, and suchlike haunting the rocks. 'Sarcelle' himself, as a result of fishing from seven o'clock to two o'clock in the morning, gives three small bogue and five oblade to match as the bag made by four rods. The list of fish compiled by this gentleman in 1894, after frequent visits to the Genoa fish market, is, as might be expected, headed by the tunny. Then follow the striped bonito, mackerel, the sport-giving lichia family, mullet of two kinds (pink and red), and surmullet, swordfish, the great sea perch, and a number of beautifully marked fish of the serranus tribe, wrasses, dogfish, hake, gropers, flying fish, a variety of breams, sea pike, conger eel, a number of gurnards, flat fishes, including the turbot, prawns, and shrimps. The *Sciæna aquila*, which is supposed to be universal in the Mediterranean, appears to be scarce in the Gulf of Genoa.

In the Adriatic it is commonly believed that the hake,

whiting, and other fish taken by hook are better for table purposes than those caught by trawling and other forms of netting. The line fishing is very considerable, and is regarded as one of the most popular of summer sports. One form of hand line, with two or three hooks, is baited with worms or smelts, and thrown out from shore with or without a rod for gobies, smooth serranus, and similar species. Mackerel, bass, and garfish are taken by a long line weighted with lead at intervals of four or five yards, and hooks attached to a long collar of copper wire and baited with pieces of fish. This method is trailing pure and simple with hand line. Gilt-head are caught with a horsehair line armed with large hooks, and, south of Dalmatia, the same fish is caught by whiffing under easy sail, the line being not less than fifty fathoms and composed of common cord. Another line for miscellaneous fishing is often 250 fathoms long, and carries snooded hooks to the number of two or three hundred, and this is either sunk and buoyed, or floated near the surface. Spears, prongs, tridents, and harpoons are employed; and poisonous substances are not unknown for stupefying fish after the manner of the Irish spurge-laurel sportsmen. Indeed, there is a compound used in the Adriatic for this purpose which is extracted from one of the *Euphorbias*.

There is excellent bass fishing on the rock-girt islands of the Grecian seas, and Yarrell mentions the Ionian method of catching the garfish, or sea pike: a small dummy raft rigged with masts and sailed like the toy boats on the Serpentine, is employed to carry out a long line which is kept up by floats, and from which depend short hair lines with baited hooks. This is something of the principle of the otter fishing of the British Islands, and in the Mediterranean we may also discover an imitation of the Solway stake nets in the capture of the tunny. This fish begins to afford sport at the latter end of May, and its capture is effected by strong walls and chambers of nets fixed in the subterranean waterways. The unsuspecting fish pass from section to section, and find themselves at last in a death chamber from which escape is

impossible, and where the fishermen slaughter right and left at leisure.

Amongst the curiosities of sea angling, and the novelties of such sport, may be mentioned in passing a long-established practice on the Sea of Azoff when it is frozen. This inland sea freezes quickly on account of its shallowness and the brackish nature of most of its water. As navigation is at once stopped by this annual sealing up from the end of November to the end of March, the fishermen are driven to make their livelihood by fishing through the ice. This is done by both nets and lines. An adapted seine is used for the former, and the net is brought into operation by being ingeniously passed along under the ice by means of a number of small holes, twenty feet apart. Valuable hauls of fish are sometimes made by this style. In the open water the fishermen submerge a long line some two or three feet under water, with large hooks fastened about a foot apart. This, however, is not sport, but deliberate stroke-hauling; the hooks are never baited, and the sturgeon in swimming along are hooked foul. There are four kinds of sturgeon in the Sea of Azoff, and residents in the country swear to having seen a specimen of the largest variety weighing 2,700 lbs. This was, of course, a very exceptional event, for fish of a thousand pounds and upwards are not of common occurrence. The other fish in the Sea of Azoff include carp, bream, perch, roach (*Cyprinus vimba*), razor-fish, and other smaller varieties. With regard to the commercially important sturgeon, it is perhaps scarcely necessary to remind the reader that they are never brisk bait-feeders, and the above method of capture in southern Russia is successful only because the sturgeon there swim in shoals near the surface.

What is possible in distant and unknown waters in the matter of sport has been admirably shown by 'Sarcelle,' to whom reference has already been made. When he was appointed to the consulship on the out-of-the-way bulge of North-West Africa at Mogador no one had thought of mentioning it as offering any sort of piscatorial attractions. Mr. Payton, how-

ever, by persevering trials found it all that he could desire in that respect, and his contributions to current journalism, based on those Moorish experiences, have proved an invaluable exposition of sea angling at large. The strange fish which periodically appeared on that open coast may be found, however, in many other countries, and the methods he proved best for dealing with the powerful and formidable sea fish he encountered might be adopted whenever similar conditions occur. But for the capricious behaviour of the fish on their annual visits, and the uncertainty as to their appearance, Mogador might have been a sea angler's Paradise.

The native Moors, whose characteristics are so pleasantly sketched by 'Sarcelle' in his descriptions of sport with fishes and birds, were keen fishermen with the rod. Invoking Allah for prosperity, they watch the times and the seasons, go afloat with their rough tackle, and come back sometimes with from one hundred to two hundred fish in their boat—tasargelt, or what not, averaging seven pounds in weight. 'We did not come in till we had not a hook left,' naïvely said one of them after a hot day among the shoals. The tackle used by these fishermen is a short stumpy piece of bamboo, about eight or nine feet long, to which is attached on a strong cord line a couple of yards of stout wire. The hook is often barbless, and of the butchers' meathook order in size. Among the baits, whose name is legion, there is used, especially for the tasargelt, an attractive strip of octopus arm, threaded upon the shank of the hook, and fastened to the wire above. Curiously enough no care is taken to extend the bait beyond the bend, so that the point, and the barb if any, together with a good deal of the wire, are left bare.

With his lifelong experience of sea angling 'Sarcelle' naturally improved upon these primitive methods, using proper rods and tackle and trying a variety of the baits and flies of civilisation, even a combination of white rag and red wool here, as in every clime, proving efficacious. But the most expert fishermen with the best appliances are frequently smashed up by the

monsters of the deep. A boat must be used. The natives have four or five rowers, the boats go out in fleets, and the fishermen move amongst the immense shoal singing, shouting, yelling, and flailing the water with their rods, lines, and hooks. When sport is 'on' no attempt is made to play the fish; it is lifted bodily in by sheer weight of pole and cord if not too big for such summary jurisdiction, with the result of fishermen making it a boast that they do not come in until they have lost every hook. The experienced sportsmen who pursue the rules of the game are compelled to use stout hempen lines and snooding of fine white wire, and even these prove insufficient against the strong sharp teeth of the tasargelt. The fish which visit the Mogador coast come by instinct to prey upon the small silvery fish of the sardine and anchovy type, and any artificial bait should be in imitation of them. Sole-skin, minnows, or any of the dainty phantom productions, would be useless. A simple bit of tin, slightly curved like the common baby-spinner used at home, is enough for sport when the fish are feeding.

The azlimzah is another of the great ocean fish taken in these parts, and it advances towards the shore in battalions during July and August. There is always some drawback, however, and the sport is often hindered by obstreperous north-easterly winds, which make a rough sea and dirty water, fatal to successful angling from boats. The baits are the same as for tasargelt—a piece of octopus, small sardines, or a bit of silver side, locally called 'aghulim,' cut from a freshly caught fish. The azlimzah run from 30 to 40 lbs., and naturally give magnificent sport. In 1885 a young visitor to Mogador killed an azlimzah of 54 lbs. in weight. It was 54½ inches long and 30 inches in girth, and on the same day 'Sarcelle,' who had taken the young gentleman out, himself caught one of 50 lbs.

The aourah comes into the water in shoals at the same time. These are beautiful fish, with gold and silvery hues, and blue grey markings on the side. They will follow the boat close to the rudder, and dash in the wake of it at the spinner, which is generally of the smaller kind, and used with gut traces

and light rods. The aourah averages 4 lbs., and as it is a surface feeder the bait must be kept moving pretty swiftly. The arrivals of these gamesome fish during the summer months amount to an annual carnival for the inhabitants, who forsake the duties of home for the remunerative pastime. The fish sell well in the market, except when a glut is caused by the angling amounting to slaughter rather than sport; at such times you may purchase for a penny or twopence each, fish of 20 lbs. to 30 lbs.

In the spring bass fishing begins at Mogador, and 'Sarcelle,' one May day, after a fierce struggle killed a grand specimen of 10¼ lbs. on single gut. The fish twice emptied the winch, and the second time it was necessary to throw the rod overboard and allow the whole concern to take its own way. The fun among the bass is intensified by an odd azlimzah, which makes short work of the finer tackle used for the shyer sea perch. When bass or other fish are playing about in shoals pursuing the anchovies, the commotion in the water is called by the natives 'tiferdeen.' For bass fishing a tin spinner, with a strip of octopus arm on the bend of a single hook, and at the end of a long snooding of sinnet a length of single gut, is trailed with a bamboo rod over the stern. At the cry of 'tiferdeen' cascades of anchovies are seen tumbling into the air in all directions, and the face of the water is disturbed with the mighty splashes of heavy fish, chiefly bass. As the shoals of anchovies hasten seawards the boats follow, and in their bolder moments the bass take the bait close alongside. On one of his good days 'Sarcelle' caught ten bass and a few other fish, the grand total being about 140 lbs. It was a great bag, for though the biggest fish was not more than eight and a half pounds, the majority were three- and two-pounders. The bass leave the coast in July, and there is then business with the maigres. The azlimzah is described as a thick-built, large-headed, coarse-scaled fish, with percoid front dorsals, grey-golden in hue, four or five feet long, and weighing 25 lbs. to 60 lbs. each.

The bonito is ready-found game on all the Atlantic stations,

and at St. Helena the officers obtain good baskets by using bamboo rods about fourteen feet long, Nottingham winches, and about one hundred and twenty yards of line. The bait is the small fry of any silvery sea fish. The bonito is an old friend, of course, of the sea angler, and his sporting qualities are well known. Indeed, a fish of about 10 lbs. is as lively as a salmon. A basket of dead fry to use for casting out in handfuls as a surface rather than a ground bait is one of the tricks of this excitement, and a hook baited with a live fish is thrown out into the boil created by the attracted fish. The bonito is one of the few sea fishes that leap continually out of the water. I have heard of a bonito of 40½ lbs. killed in this way at St. Helena.

The flamingo-haunted lakes, and the Suez Canal which skirts or is part of them, abound with fish, and the sphinx-like Egyptian is a most patient rod-angler along that famous waterway. A beautiful bass is found at Ismaïlia, but it is fished for with the clumsiest appliances, though the 'Bitter Lake Trout,' as it is designated, is a highly marketable commodity. The local fishermen lay night lines and are well content with the eight- or nine-pounders which the morning brings them ignominiously hooked. With a light bamboo rod, and shellfish bait which the donkey boys of Lake Timsah readily procure for you, a basket of what the Americans term 'pan fish' can easily be caught, and it is these young mullet and bream which haunt the woodwork of the jetties that are used as bait for the bigger bass. The sailors of ships lying at anchor get fish as long as their arm on the most primitive of night lines.

South of the tropics there is also sea angling of various sorts for the resourceful sportsman. The colony to which men of enterprise are now turning is in that direction, and at the Cape there is rare sport in Simon's Bay. A fish represented as a 'Cape salmon' of 26½ lbs. was killed in November 1894 by a learned professor (James Cameron, registrar of the University of the Cape of Good Hope, and formerly classical professor in the South African College). As such local names are often

very misleading, on reading the account of this exciting piece of sport, I wrote to the captor, asking for precise information as to the species. The anglers, it may be premised, were fishing with rods from a little platform near the stern of one of her Majesty's ships, and the fight became perilous as well as inspiriting when the fish darted under the keel of the ship. After an hour's hard fighting, a welcome break in the monotony of life on the quarter-deck, the prize was landed from a boat. From the communication received I am able to state that this particular Cape salmon is the *Otolithus æquidens* of Cuvier, and it is called at the Cape 'geelbeck,' or yellow mouth. There are other fish in these waters also called Cape salmon; one of them, which runs from 30 to 40 lbs., and gives splendid sport, is the 'Kabeljauw,' *Sciæna hololepidota* of Cuvier. The best fish in Cape waters is the 'Steenbrasem,' *Lithognathus capensis* of Cuvier, but it is somewhat lethargic when hooked.

My correspondent, subsequent to the fight with the Cape salmon, which went the round of the papers, went out fishing between a late breakfast and an early lunch with a friend, and the two rods accounted for five fish, of a total weight of one hundredweight. The largest individual in this fine bit of salt-water angling was a 'steenbrasem' of 48 lbs. The other four were what is called by the Cape men 'seventy-fours,' the same being the *Dentex rupestris* of science. It is described as a particularly handsome fish with large bright scales, silvery as a clean run salmon, and ranging from 10 to 25 lbs. Here, as elsewhere in foreign sea fishing, not the least charm is the variety of fish taken. The professor has caught as many as thirteen distinct species in one morning in False Bay.

In dealing with Simon's Bay it may be mentioned that the Bank of Agulhas is the Dogger Bank of Cape of Good Hope fishing men. From boats running about five knots an hour—a little less for choice fishing—lines with copper wire traces, and baits often rudely cut out of a sheet of tin, or a piece of scarlet or white bunting wrapped round the hook, are taken by the locally called 'snook,' a large fish of a copper colour, with fierce

jaws and a formidable array of teeth, closely resembling the barracouta of the West Indies. Sometimes the thick lines are snapped like packthread by bonito or albicore. The Agulhas Bank extends from the Cape of Good Hope along the eastern coast of Africa, a distance of some hundreds of miles, and being formed by the ocean current, is the haunt of every variety of sea fish. It was here that Sir Edward Belcher caught forty-two fish, ranging from 6 lbs. to 32 lbs. in weight, in six hours ; and the almost incredible story is told of the lead being actually stopped in its descent by the packed shoal below. This, however, would mean deep-sea fishing, and, indeed, the best of the fish are found at a depth of seventy-six fathoms.

On the eastern coast of Africa, those who make the attempt generally find abundant sport with sea fish. A few years ago a native employed on board H.M.S. *Agamemnon*, lying in Zanzibar Harbour, caught a monster which outdoes even the American tarpon. The man was fishing with gut tackle on an ordinary hand line, and, hooking a fish which was obviously something out of the common, he jumped into a punt to see the incident out. The fish sulked for the first half-hour, and then, at no great speed, made down the harbour, easily towing the punt after it. Some of the officers of the ship went off to assist the fisherman, and eventually contrived to run a line through the monster's gills. By this time, however, decisive action had been forced by the tactics of the enemy a good half-mile away, and the punt with the fish astern was towed back. Hoisted in, the latter measured 6 ft. 2 in. long, 4 ft. 4 in. in girth, and weighed 360 lbs. Lieutenant Harston Eagles, who is an enthusiastic sea fisherman, states that his lines have been frequently broken at Zanzibar, where large tunny, and the fish known as seer-fish, afford real sport from March to June, trolling with a salmon rod.

The Antipodes provide much amusement for the sea angling colonists, and, save in New Zealand, Tasmania, and, to a limited degree, Victoria, it is to the salt rather than to the fresh water that they must look for sport. So far as Australia proper is concerned, there is nothing more thoroughly enjoyed, and more

enjoyable, than that to which the schnapper party addresses itself. It comes in the cool months, when the days and nights are cloudless, and there are no mosquitos. Under these circumstances, and with sport to be reckoned in gross weight, if the fates are propitious, by the ton, your schnapper party is generally hopeful—certainly hopeful at the start. These excursions have a family likeness in all the colonies, for the schnapper will not come up the river to be taken by a mere picnic gathering of ladies and gentlemen, but has to be sought on his rocky sea haunts. In the case of Queensland, where I had my best experience, it meant a voyage to the Flat Rock in Moreton Bay, and many a delightful expedition did we make in the government steamer *Kate*.

A sketch of a schnapper excursion, as we made them in those parts, may be given as in general features typical of those in other colonies. You start early on the afternoon of a kind of day when a man must indeed be bad in mind and body not to feel that, spite of hard times, it is something after all to be alive; something to possess lungs that will drink deep draughts of an exhilarating atmosphere. The true type of a Queensland winter day is a keen morning, that smells of frost but bites not, cloudless hours of warm sunshine, a radiant and rapid sunset over purple-tinted mountains and woods, and, with eventide, a return of the scent and feeling of incipient frost. Every object of the river trip is a greeting; the white paint of the houses is bright as the light, and the dingiest gum tree, bathed in the universal effulgence, becomes almost a thing of beauty. The grassy heights, the undergrowths that dot them, the fenced-in allotments whose sward has never yet been upturned, the land under cultivation, the patches of untouched bush, the clumps of banana around the cottages or large suburban residences, the numerous reaches in the river with their profusion of hill and wood—all these are at such a time freshly welcome, though to most of the party they have been for years familiar enough.

There is no fishing generally the first night. Flat Rock is sixty miles and more from Brisbane, and, with darkness setting

in by six o'clock, it is as much as we can do to reach Amity Point in time to cast anchor for the night. The excursionists in the comfortable saloon well know how to spend a pleasant evening: cards, conversation, and books—but chiefly cards—help to pass away the time.

Soon after casting anchor we discharge a few rockets and burn blue lights—a bit of pleasantry on our own part that is at once answered by shouts of applause and laughter from the shore. Amity Point is inhabited by blacks who assist in the oyster and dugong fishing conducted there; and our pyrotechnic display appears to have brought them out of their bark huts and down to the beach. Half a dozen of us accordingly go ashore in the captain's gig to procure what is very practically the sinews of war for the coming campaign—to wit, baits; to see the blacks around their own camp fires; and to enjoy a quiet stroll upon the white sand, under the wonderful stars of the Antipodean hemisphere. We are carried through the surf on the shoulders of good-humoured natives, whose teeth literally gleam through the darkness when no other part of their faces can be discerned.

We find three newly-caught dugong being skinned and cut up for their hides, oil, and flesh. These curious creatures in the early days of the colony could be procured by whaleboats and harpooned, but they have been gradually driven to more remote waters. Dugong are now principally taken in a net with immensely wide meshes. The nets are laid in subaqueous thoroughfares through which the experienced fisherman knows the creatures will pass on their search for marine grasses; the animal becomes entangled, struggles himself into inextricable toils, and, being unable to rise to the surface to breathe, drowns. The dugong is well named the sea cow, for its head is not unlike that of a polled bullock, though its nose is considerably broader, and furnished with a sensitive terminal, by which it may discover and crop the herbage of the submarine pastures to which it flocks. The body roughly resembles that of a gigantic seal, and dugong are sometimes taken weighing a ton and a quarter. The animal is very shy, however, and has

to a great extent deserted the old haunts, and must now be sought north of Torres Straits.

Now let us return to our party on board the *Kate*. We sleep, some on deck, some below in the saloon, some in the hold; and though under the sunshine we might dispense with any description of coat, at midnight the thickest is not too heavy. At dawn next morning there are signs of movement on board; the early sportsmen are preparing for action. Day is awaiting the signal to rush impetuously upon the heels of night, and in these latitudes night has to be pretty sharp if it would clear away before the full-orbed sun is close upon it.

We are soon under weigh. The *Kate*, once out of the shelter of Amity Point, proves herself a remarkably frisky lass, much given to dancing to the piping of the wind, and familiarly responsive to any wave that chooses to flourish its arms around her waist. Then it begins to rain, and the sea begins to rise, and the prophets begin to prognosticate an unpleasant day, and we are, in short, doomed to fishing under considerable difficulties.

The obdurate nature of the ocean bed at Flat Rock renders it impossible to anchor near the fishing ground. The *Kate*, as fast as she is brought near the desired spot, drifts back again, and as the fish are only to be had near the rocks, the moral enforced upon us is that we must make the most of our time. And this is how we do it. Each man takes up a position, and clings to it. At his feet, if he be a deft fisherman disposed so that there shall never be a hitch, lies a coiled line, thirty fathoms long if it is to be of any service, about the thickness of a codline, and weighted with three egg-shaped pieces of lead, each a pound in weight, and so bored that the line will run freely through it. The hook is of the largest dimensions, and it is best to have it attached with a length of overgrown gimp, or three pieces of ordinary gimp twisted. The bait is a lump of fish or meat the size of a walnut. Slowly the steamer advances to the charge, until you can hear the green water streaming off the protruding rocks. Look well to the thick

leather shields on your hand, else presently your fingers will pay the penalty. It is comical to see twenty gentlemen—cabinet ministers and what not—waiting at the bulwarks, line in hand, in all kinds of expectant attitudes, eager to heave the tackle overboard the moment the way of the stopped steamer slackens.

With splash and shout, at length twenty heavily-weighted lines are speeding through the beautifully clear depths—twenty lines racing through finger and thumb at a rate that renders either a glove or a canvas sheath an absolute necessity. Do your best in ten minutes, for no longer can we remain in the neighbourhood. If we are in luck, in a few minutes there is a loud and long-sustained rub-a-dub on the deck. Is it a heavy-footed man dancing a breakdown? Nay, it is the first schnapper announcing his release from the nasty, wet, salt sea, and heralding his kith and kin, so that within a couple of minutes the entire deck echoes with the rub-a-dub of fresh arrivals.

It is scarcely sport—it is a piscatorial battue. You are hauling up from the bottom, fathoms down, a burden which taxes all the strength and makes the perspiration ooze from every pore; yet it is grand fun for a while. The fish bite fast and furious. As your line, after yielding its captive, is recast, it throws out coruscations of silver in its rapid descent. Soon your eye discerns, fathoms deep, an almost impalpable flashing to and fro, as if a burnished platter were gyrating in an eddy; it assumes a lovely pink hue as you bring it nearer the surface, and then, in a twinkling, a burly schnapper of seven or eight pounds is flapping vigorously and noisily on deck. Sometimes it is a fish at every haul, and, under those circumstances, not the least amusing feature of the sport is the spectacle of a score of excited men jumping round a score of big fish which are doing their best to convey their amazement and indignation to an unfeeling world.

The schnapper is, like nearly all the fishes of these waters, beautifully tinted, and the prevailing colour is rose pink,

speckled with turquoise blue. It is a thick, broad-sided fellow, as if originally intended for one of the bream tribe. The resemblance to the bream, however, ceases at the top of the shoulders, where there is a bony hump and a sharply sloping, undulating ridge of bone down to the mouth, which is horny and well furnished with teeth. You deposit your game, not in the familiar creel, but in a sack bag, knowing full well that at the wharf at Brisbane by-and-bye there will be an astonishing number of acquaintances, who happen to be passing—just by accident of course—and who will somehow walk away with a brace of fish dangling from a bit of spun yarn. The schnapper is, in fact, excellent eating. It does not come amiss in any shape—boiled and served with shrimp sauce ; fried with egg and breadcrumb ; soused ; and, better still, as mayonnaise.

The best of schnapper fishing is that you leave off contented. It is hard work : the fish range between five and twelve pounds, and it will be a very bad visit indeed to the Flat Rock if the poorest fisherman does not get ten or a dozen schnappers. The best of the fishing lasts not more than two hours, and much of the time is occupied in steaming, after the drifts, up to the rock again. Yet we return with two hundred and fifty schnappers on board besides other fish, making a total weight of not much less than 2,000 lbs. It is no uncommon thing for six hundred large schnappers to be taken on one of these excursions.

It is not, however, schnapper alone we take. At one of our halts we catch a very strange collection of fish indeed. First there are three varieties of the parrot fish, shaped something like a carp, coloured a brilliant scarlet, and armed with four ivory teeth, protruding like those of a rabbit. A small fish, the exact image of a thick-set trout in bodily form, and about half a pound in weight, falls to my share. How it could have taken the schnapper hook is a mystery to this day ; but there it is in the Brisbane Museum, admirably set up and preserved, and taking its place among the natural history specimens, with its scientific classification, and my own name as the distinguished donor, duly set forth in intelligible characters. The fish is designated

'*Diacope octolineata* ; family *Peresidei*.' The colours fade somewhat after death, but I make a memorandum with fishy fingers before it gives up the ghost, and thus it reads : 'In shape not unlike a Wandle trout ; fins and tail bright gamboge ; belly ditto with vermilion spots ; sides deep yellow, with four lateral stripes of bright blue—rows of turquoise on cloth of gold.' A king fish is also taken, a blue and white gentleman apparently of the bonito persuasion. A perch, own brother in shape to our English friend of that ilk, only a magnificent vermilion with black spots, is another celebrity.

On the trip I am here recalling we had during the last half-hour a succession of surprises. A member of Parliament, since a cabinet minister, called lustily for help, and we rushed to his aid. He had hooked a shark, and after a tremendous tussle the beast was landed by means of a couple of boathooks thrust into his hideous mouth. It was about five feet long, and as it betrayed an uneasy conscience and was far too lively to be safe, it was conciliated with a well-sharpened axe. Another member of the Legislative Assembly, not to be outdone, set up a wild hullabaloo ; he too, so he averred, had a shark. You could see it was a big fish, there were strong men (all parliament men) engaged in bringing it in ; but, instead of darting hither and thither, it came up a dead weight, no more like a shark than the chub is like a pike. Its sheer weight unfortunately severed the line, and there were blank lamenting faces near the sponson, and general laughter from the rest of the company.

The lion of the collection was taken by a member of the Government, since known to fame as a statesman ; it was a groper of 60 lbs. weight. It did not show an ounce of pluck from first to last, but allowed itself to be hauled in as if it were its fate, against which it were useless to contend ; and the only protest it made on deck was to open its jaws, but in a manner more indicative of an ill-mannered gape than a decided exhibition of defiance. The naturalists are quite right in saying that this fish is distinguished by its large mouth ; a medium-sized portmanteau might be stowed away in it without the

slightest inconvenience to the fish. After the engagement is over, the combatants clear the decks, remove the slain, put away their weapons, and resume attitudes and pursuits of peace.

Fishing excursions like that which is sketched in some detail in the foregoing pages are, however, only occasional. The everyday sea angling is of a more simple kind, and can be indulged in without a chart and the victualling of a ship. Round the Australian coasts there are always sea breams, and on sandy beaches three or four kinds of whiting. Jew-fish and many other species come into the rivers at given seasons, and among them sea mullet in prodigious numbers. These, as under the Great Bear, are not free biting, but the smaller sizes are often taken when angling for other species with rod and line, either from the moored boat, or from rocks and banks.

At Brisbane our little property, with its buffalo grass sward, was protected from the tide by a ridge of rocks and mangroves, and all we had to do when fancy prompted us was to walk down past the orange trees, seat ourselves on the bank or in the punt, and let the float make its allotted swims. Sometimes there were only obnoxious catfish; sometimes small mullet appeared; but our common stock were bream, which, when they were foraging near, loved to grope about the roots of the mangroves, and we could catch them either with prawns (of which we took quantities off the garden by sinking a minnow net made of muslin) or by lumps of paste covering the hook. It would be a very good specimen which ran to 1½ lb.; and the fish was worthy of respect, being game to the death, and out of the water no disgrace to the best frying-pan ever imported.

In these waters you never quite know what you are going to hook. Sometimes the tidal rivers appear to be in undisturbed possession of a queer little fellow that is called a perch because, I suppose, it has little of the perch about it except its bars, and its boldness in the matter of biting. It has a blunt head, and square mouth overhung by a thick bony snout; and there are at least two kinds, the gold and the silver. A sea fish that comes into notice when the water is thoroughly salt, and

sharks are reported amongst the shipping, is the flathead. He is a peculiarly artful or lazy fish, that seems to do business at leisure, for instead of seizing the bait with appetite and rushing off with it, as any healthy-minded fish should do, it quietly sucks in the morsel as it lies, so that you have no suspicion of being engaged with a customer until you haul upon your line, and find the creature well hooked. Some of these fish require very cautious treatment, and it is always wise to conclude that the stranger has knives and daggers concealed about his person. The flathead has an unconscionable quantity of spines, and demands very careful handling. I have known them caught from fourteen pounds downwards, and their value at dinner-time makes us anxious to basket them, although it is always best to pin the victim to the ground with your foot before removing the hook.

The jew-fish, common in all the colonies, is the *Sciæna antarctica* of Castelnau, and is allied to the maigre of the Mediterranean. The fish is better for appearance and sport than for edible qualities; is a rough outline of the salmon in shape, almost as silvery as that royal fish, but with opaline tints over the head and sides when the sun catches it. On its first appearance out of the water it reflects the most beautiful colours, but they soon fade, and the silvery sides rapidly become tarnished. With appearance, however, any resemblance to the salmon ends, for the flesh is white and soft, except in large specimens, when a block cut out of the middle serves as a far-away reminder of boiled cod and oyster sauce. As objects of the angler's desire jew-fish are very capricious in their movements, appearing sometimes in shoals, and at other times playing the truant for weeks or months together. These fish run up to sixty pounds in weight.

The quiet bays of the Pacific, on the whole, furnish the best sport with rod and line. We used to get capital angling by wading in to meet the tide flowing shorewards over the clean sandy flats, and the fish we used principally to basket was the sand-whiting, in shape and colour not unlike our own grayling,

and for which we could fish with fine tackle, rod, and creel regularly slung. New Zealand and Tasmania are equally good for the sea angler.

In the old days in New Zealand, before there were any trout, the military officers varied their routine duty among the war-like Maori with such sports as they could obtain, and those who were near the coast soon learned the game qualities of the kawai, locally termed New Zealand salmon, at the mouth of the Waikato, which is now one of the best of New Zealand trout streams, tenanted by huge Salmonidæ introduced from Tasmania, and descendants of some of our British strains. An officer of the 68th Light Infantry as far back as the fifties gained quite a reputation by his prowess in fishing for the kawai with large salmon flies. Even up the river itself he took the smaller fish, which are locally called 'shoal kawai,' and which seem to be the grilse of the larger fish. Tauranga, in the Bay of Plenty, is probably the best place on the coast for kawai. They come in from the sea in numbers, and run to large size. They may be taken best with spinning bait, natural or artificial, and are a stock means of sport to white and brown man alike.

The Maoris themselves are keen and clever fishermen, and have from time immemorial used the rude hooks of charred wood or bone found amongst all eastern peoples. When the use of metal became known, and long before our modern barbed hooks were invented, barbless hooks were made from nails and other iron scraps. In fishing for kawai there were long shanks slightly bent to accommodate the shell baits which were lashed on with native flax, the flashing of the pearl being evidently the attraction to the fish. The spoon used in civilised countries for pike and salmon is but a development of this style. Even when barbed hooks were introduced the Maoris cut them off on the plea that they were too much bother to extract when fish were feeding briskly. The bone hooks are universal among savage peoples in all latitudes.

The South Sea Islanders, like the Maoris, are skilful and most persevering fishermen, and adopt a variety of methods to add

to their simple diet the fish which cruise around the reefs and rocks. Some of their wholesale methods of capture are very ingenious. The spears have barbed prongs, or they bristle with sharp fishbones, and most hunters of curios will probably have found in native huts carefully preserved specimens as much prized as war implements, and as worthy of collection. The natives in many of the islands are adroit in fishing the reefs with stake nets, and a kind of shrimp net stretched on poles is used for the fry resembling whitebait. Traps are manufactured of plaited cane, and artistically designed with something like a pattern. The general idea is to produce a basket into which the fish can enter but not return. In one of the islands I heard of another trap made of prickly palm branches, which answers the same purpose as the basket, though it is a much simpler affair, and is placed on the edge of the reef by the fisherman diving and putting a stone on the tether, leaving its whereabouts to be indicated by a float. The natives have rudely understood the art of spinning for ages, and their bait is a pearl shell shaped like a fish, with a tortoiseshell hook attached. The point of this is sometimes bent inwards like a shepherd's crook, and sometimes only slightly curved. One pattern is fashioned bodily out of a clam shell, but to this a bait is fixed. Iron hooks are made from nails, and by never allowing the fish a chance of turning, the natives become adepts in dragging out fish with their barbless and primitive contrivances. On many of the smaller islands which find no place on maps, there are temporary fishing stations visited by the natives at the seasons when they know by long tradition payable fishing is to be had. Turtles are caught by lassoing.

The Polynesians have an ingenious form of sport something in the nature of a *battue*. A number of rafts are joined together to form a water compound on some shallow beach frequented by fish. A couple of men, working from a small canoe in the centre, thrash the water and drive the fish towards the boundaries. Numbers of fish in their terror leap, strike against the outer fence of the raft, and so quickly find

their way to the baskets. On the reefs, spearing by throwing with one or both hands is practised. The hooks are made of shell and bone, and answer the double purpose of hook and bait, some of the small ones being circular and twisted into rough resemblance of a worm. The rod used in sea fishing from the canoes is of bamboo cane twelve or fifteen feet long, and this enables the fisherman to attract the surface feeders by dangling on the water an ingenious tuft of bristles or hairs attached as a tail to the shell bait.

# CHAPTER XV

## TARPON FISHING IN THE GULF OF MEXICO

By ALFRED C. HARMSWORTH

TAKE a reasonably large map of the United States, cast your eye down to the south-west of Florida, and you will be looking at the coast outline of one of the best of sporting countries. If you are an angler, you can kill a dozen varieties of game fish of from 1 lb. up to 200 lbs.

Florida sounds such a long way off, it is so usually associated with tropical flowers, oranges, and ne'er-do-weels, that the leisured angler, in searching for fresh spheres of sport, fails to give one of the best fishing countries in the world due attention. As a matter of fact, all but the most remote portions of Florida can be reached in nine days from London, and when one arrives at one's destination there is a capital assortment of outdoor amusements open. Had I been an all-round sportsman of the pot-hunting variety I doubt not but that with three months of rod, rifle, and gun I could have brought back a shipload of trophies. The quality of the sport in Florida is of the best. Great kills of fish or game are often the result of unsportsmanlike methods, but such Florida sportsmen as I encountered fished and shot irreproachably.

In glancing again at your map of the United States you will find that Florida is snugly ensconced away down to the south of that vast Republic. From New York one travels for little more than a day and a half to Jacksonville, the chief town of this great, straggling, unpopulated State.

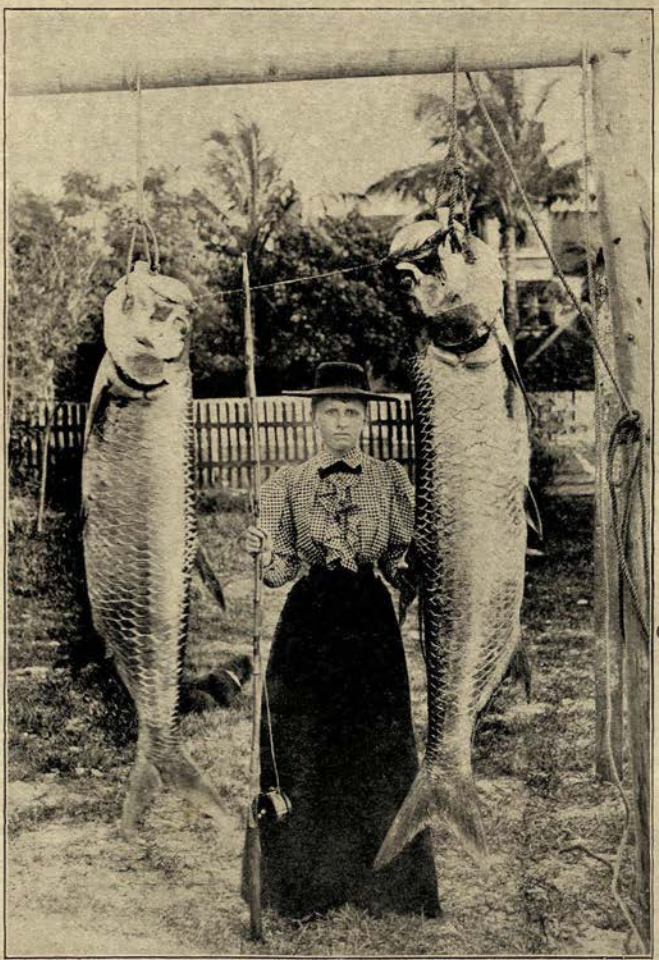
We drove to the railway station in New York in a sleigh; next day we left the train at Jacksonville, and found ourselves in a climate exactly similar to that of Cairo at the beginning of March. Journeying is pleasant in America. There may be delays; one may be 'side-tracked' for three or four hours or more; the speed in the remoter parts of the country is not such as a Briton, or the man of the Eastern States, is accustomed to; but the people who come and go from town to town are amusing and delightful and, like all provincials, wonderfully inquisitive. They do not seem to be able to understand that there is a kind of man who will go on long journeys with any other object than that of money-making, and regard the sportsman as a good deal of a fool.

I had first been led to think of tarpon fishing by occasional references in the 'Field' and the 'Fishing Gazette,' and on seeking for information Mr. Marston referred me to one of the best-known American anglers, Mr. A. N. Cheney, Glens Fall, N.Y.

There are so many kinds of fishing in the United States; the country, or rather the aggregation of counties, is so enormous, that it was not unnatural to find that Mr. Cheney himself had never made an expedition in search of what can unhesitatingly be claimed as the king of game fish, salmon not excepted. Mr. Cheney, however, supplied me with an amount of information that enabled me to go to Florida and back with as much ease and considerably more comfort than would be experienced in a trip to the Black Forest.

First let me ask and answer the question, What is the tarpon? According to the United States Fish Commission he is *Megalops atlanticus* and *Megalops thrissoides*, a branch of the Clupea family. His official description is:

An immense herring-like fish, which occurs in the western Atlantic and in the Gulf of Mexico, ranging north to Cape Cod, and south at least to western Brazil. The sailors' name for this fish, by which name it is also known at Key West, Bermuda, Brunswick, Georgia, and elsewhere, is 'Tarpum' or 'Tarpon.' It



AN ANGLER AND HER CATCH

is also known as the 'Silver King,' 'Silver Fish,' or 'Grand Ecaille.'

One leading authority describes it as :

> An immense and active fish, preying eagerly upon schools of young fry or any small fish that it is able to receive into its mouth, and in pursuit of which it ascends freshwater rivers quite a long distance. They go up the Homosassa River in Florida, and several of the Texas rivers. Fishermen dread it while dragging their nets, for they have known of persons having been killed or severely injured by its leaping against them from the seine in which it was enclosed.

So much for the official account of the fish. A mounted specimen of my own capture before me is indeed something like a mammoth herring, and the herring, mind you, is a remarkably handsome little fellow. The scales of the tarpon belie description. The largest tarpon scale I have ever seen was eight times the size of a two-shilling piece, more than one-third of it covered with what looks like an artificial painting of burnished silver. The first time I saw a tarpon scale I imagined that it had been improved by artificial means.

There are, indeed, many matters in connection with tarpon fishing so surprising as to incline the Briton to a belief that they are the offsprings of the imagination and enthusiasm of his American kinsmen.

Until I had killed a tarpon I regarded the statement that he was a stronger, more active and clever, fish than the salmon as rank heresy. Born on the brink of a salmon river, I could not imagine that there was anything finer in the world than our friend *Salmo salar* ; and yet it is a fact that, taking the maximum weight of salmon as about 60 lbs., the largest tarpon killed up to date is three and a half times that weight, and, in more than one particular, of better build for fighting.

I can imagine nothing more powerful than the tail of a tarpon. Accustomed to battle out his life among the storms on the Gulf of Mexico, he is naturally able to tire a human being, and it is a fact that many a man has been obliged to cut

himself loose from his fish after a fight of three or four hours. The tarpon fights all the time. He rarely sulks. Indeed, but for the fact that he helps to kill himself by his terrific and frequent leaps from the water, it would be rarely possible to capture him at all.

Among the most successful tarpon anglers are the Lord and Lady Orford. Lady Orford is probably the only woman in the world who has killed two in one day. Her best fish was 128 lbs. Lord Orford has killed one weighing 183 lbs., the fifth largest known tarpon at the time of writing.

He has kindly furnished me with some notes of his experiences during his visit in 1894. He says, after remarking that few tarpon fishers agree as to the details of the sport, and that every man has his own theory on the subject :

Our first attempts at tarpon fishing were at Punta Gorda, but we had no luck, and I do not think well of the place from an angling point of view. About the middle of April we went to Fort Myers, and there my wife and I killed seventeen fish, my best 183 lbs., smallest 75 lbs. I have presented one weighing 150 lbs. to the Norwich Museum, and am keeping my 183-pounder and Lady Orford's 106-pounder. There can be no doubt in my opinion that the tarpon, as a fish, is quite as game as the salmon.

Of course there is not the pretty scenery, the casting, and the same amount of knowledge of where fish are to be found that makes salmon angling so delightful. Nevertheless, tarpon fishing is a magnificent sport, and I wonder that more Englishmen do not take to it.

My largest fish took one hour and forty-five minutes to kill. It should not be forgotten that they are heavily handicapped by being hooked so near a vital part, and, as every tarpon man will know, they bleed very much. As to the well-known leaping of the tarpon, I have counted over twenty distinct jumps of some feet in the air. Occasionally one meets a fish that is sulky and continually coming to the surface of the water to 'blow,' as it is called ; but as a rule their activity is marvellous. I shall not readily forget one particular fish. It leaped right over our boat.

Two hundred yards of line is none too much on a reel, for I have had a fish take the full six hundred feet without stopping, and then break me.

One has many slips when tarpon fishing, and it should never be forgotten that the slightest check is fatal to one's chance of killing. One of my fish (it had only fouled the trace by getting it under his scissor jaw) took three hours to kill.

As to whether the fish can be taken with fly or trolling—a much-debated point—it should not be forgotten that the fully-grown tarpon has a very hard mouth, too hard for penetration by hook. An American in a small yacht tried trolling, but though they took the spinner the fish always broke away. I think something might be invented that would hold them. They would be very difficult to kill in this fashion.

The time of year is a most important matter. The hotter it is, the better the fishing becomes. I cannot think that it would be good after the second week in May, as the tarpon are then going up to spawn, and though they take readily, according to accounts I heard, have lost their gameness.

*A propos* of Lord Orford's comparison of tarpon with salmon angling, it will no doubt adversely prejudice those who have never killed a tarpon to learn that the sport is partly fishing with a dead gorge bait. Up to the present no other means have been devised of killing Master Tarpon when he gets large. When small, a fly or phantom minnow is effective. When large he is so sly and cunning that he is rarely ever to be tempted by this means. And yet, despite the dead gorge, tarpon fishing requires as much skill of its own kind as any branch of sport with which I am acquainted, as is proved by the fact that expert anglers have failed to kill for the whole of their first season.

There is another reason why tarpon cannot be killed when hooked in the mouth. In its way, though from an entirely different cause, the mouth of the tarpon is more difficult than that of the grayling, as Lord Orford has pointed out; and it is for this reason that the old tarpon fishers, though they slaved away for years, were never able to kill. Up till March 1885 no large tarpon had ever been captured with rod and reel, but in that year an American gentleman, Mr. Wood, of New York City, was successful in bringing to gaff a fish weighing considerably over 100 lbs.

Among my angling treasures is a scale from this very tarpon, presented to me by Mr. A. N. Cheney.

To recount my own experiences in Florida. We left Liverpool one Wednesday afternoon, and were in New York on the following Tuesday night; and, though we made the passage in midwinter, the 10,000-ton *Teutonic*, most comfortable of floating hotels, enabled us to cross the Atlantic with but little physical agitation. Were I going again, as I hope to do, I would as soon cross in winter as at midsummer.

Early next day I replenished my store of tarpon literature, and purchased my tackle.

There are still those in England, and in the United States also, who hardly believe that it is possible to kill with very frail tackle a 200-lb. fish—a fish so strong that it can tow a boat for miles; so active that it can leap out of the water from four to seven feet over and over again; so fierce that, once hooked, it regards its captor as a personal enemy, and fights him with courage and activity not given to any other fish. The finest gut cast with which a four-pound trout can be captured is very coarse by comparison with (fish for fish, weight for weight) a tarpon line.

At Conroys, 310 Broadway, New York City, I spent 10*l.* and a very pleasant couple of hours discussing the gear and chances of sport. For my rod I paid 24*s.*, for my reel 6*l.*, and the rest of the money went on hooks and lines.

Take several rods, lines, and plenty of hooks. Tarpon fishing is such a new sport that all its tackle is in process of evolution. The kind of rod in vogue at the time of writing (1895) is some seven feet long, made in one piece, the butt bound like the handle of a cricket bat. Some men use jointed rods, an abomination from my point of view in a sport where the strain is often such as to tire the strongest man. When I fit out again, I shall not forget the wholesale breaking of reels, lines, and hooks that I witnessed during my first campaign.

'When you buy tarpon tackle, young man,' remarked an old Southern gentleman to me, 'you have got to remember that

you may expect to hook something like a thirty-knot torpedo boat.'

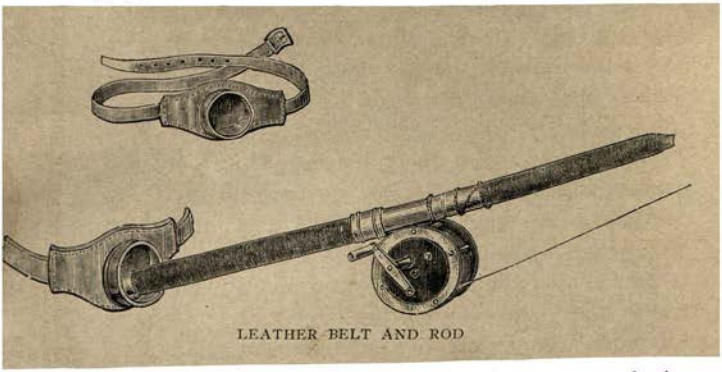
Personally I did not suffer. I broke a borrowed rod and I kindly split a friend's reel, but, having implicitly followed the advice of the New York dealer I have mentioned, I returned with all my gear intact. A charm of tarpon fishing is the simplicity of the outfit. There is no vexed question of flies. Baby tarpon have been caught with flies. I myself captured one with a phantom minnow; but, so far as I am aware, there is but one method of battling with a big tarpon, and the sole requirements of the sport are the lightest kind of line, compatible with strength, a short stiff rod, and a reel that runs on ball bearings. 6*l.* is a good deal to pay for a reel, and I blinked at the price, but I do not think a good tarpon reel could be made and sold at a profit for less.

It would be well, I think, if tarpon lines could be made with a distinct colouring for each fifty yards, so that one might know how much line is out. After prolonged immersion in the water the line swells, thus making it very difficult to tell how much one has left on the reel. Overrunning one's reel with a tarpon is, of course, fatal, and it very often occurs. At present one's only plan is to give steadily as little line as possible, but in the excitement of the moment it is not always easy to carry out careful theories. I would suggest that part of a tarpon reel line be coloured blue and the last twenty-five yards red. One would then know exactly where one was. Six hundred feet of line require a good deal more management than most people imagine. A good deal could be done to improve tarpon reel lines. Their expansion when wet is an objectionable feature. Manufacturers should remember that the great essential is lightness. Lord Orford uses a new kind of silk line which he gets from Chicago.

TARPON ROD

I would advise all who have some care for their personal safety to wear a belt when tarpon fishing. For a dollar one can purchase a leather belt in the front of which is a deep cup. Into this cup, when playing one's fish, the butt of the rod is rammed. The strength of the fish is so tremendous that, but for this simple device, many more 150-pounders would be lost than is the case at present.

See that there is fixed to your reel a leather guard, so that when the line is running out rapidly you can press your thumb upon it, and thereby form a sort of brake ; but, in putting on the brake, note that the guard is between you and the rapidly whirling spindle of the reel. I omitted this precaution on one

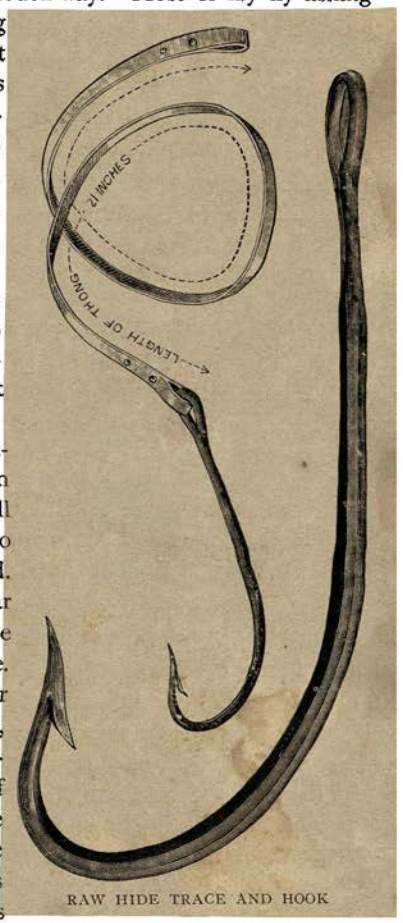


LEATHER BELT AND ROD

occasion, and my thumb was in hospital for some weeks in consequence. There are reasons, as will presently be seen, why it is absolutely essential that a tarpon reel should run as freely as the wheel of a bicycle.

I am often asked, by the increasing number of people from Great Britain who are thinking of going to Florida for angling during the spring, whether it is advisable to take any English tackle, and I would say 'Yes.' I had good sport among many kinds of fish with a light greenheart and an eight-ounce built cane rod. A salmon rod is useful, with a moderate assortment of gaudy flies, spoon baits, and phantom minnows. Dry-fly fishing is practically out of the question in such parts of Florida

as I visited. I did occasionally kill when fishing dry, but the banks and rivers and creeks are not as a rule conducive to drying the lure in the orthodox way. Most of my fly fishing was done in the evening from a boat, and it was just as easy to kill with a wet as with a dry fly. Occasionally, indeed, the fish were so ravenous that one could kill quite easily with a bare hook. The jack fish, a particularly game specimen, of which more anon, were often so numerous as to become a nuisance. Sometimes one could kill at every cast.



RAW HIDE TRACE AND HOOK

One of the most important parts of the tarpon equipment is the snell (*anglice* snood), or trace, to which the hook is attached. Piano wire and circular lampwick bound with wire are seen here and there. There are several other kinds of snells in use, but, though it is unwise to prophesy, I imagine that all of them will give way to those made of thin raw hide. The strength of this material is undeniable; and it has this advantage, that the shark, whose teeth are extremely sharp, can cut through it easily.

Sharks are one of the nuisances of tarpon fishing. They

are for ever stealing one's bait and giving false runs. Having hooked a shark, one has either to play him and kill him, or cut him loose. Playing him may mean vast loss of time and temper. He may tow one a mile from one's position. On the other hand, to cut him loose is probably to waste the greater portion of one's line.

For a proper understanding of the subject let me describe a day's tarpon fishing, remembering always that there are slight variations in the sport in different parts of Florida. In some places no one thinks of fishing before eleven o'clock in the day. In others three fish have been killed before six o'clock in the morning. I will describe a day I spent at Marco, a small settlement a long way down the Gulf of Mexico, which may be visited by those who prefer camp life to the comparatively civilised existence at Punta Gorda or 'Myers' (Fort Myers).

We travelled to Marco, a little settlement fringed round with cocoanut palms, one stormy afternoon in a small boat, and we spent that night at a little store, a rough shanty, but well equipped nevertheless. One could purchase all the needs of a rude civilisation at this place. The Seminole Indians obtain many of their goods there, and give in exchange skins of their own tanning, some most admirably prepared.

Our company was rough and much of the type so well described by Bret Harte and other Western authors. Still, our host did his best to make us comfortable, and his little daughter, a dainty specimen of Florida womanhood, rose early to prepare us a breakfast. Afterwards we proceeded with our guide, Tom Hart, a man who can always be heard of at Marco, who knows the whole coast well and is an admirable fellow, to a spot at which, the previous year, he assisted to gaff three fish in a single day. Our lunch consisted of green cocoanuts, a small sackful of Florida oranges, cold venison (venison is the staple diet of this part of Florida), biscuits, together with many bottles of ginger ale which we had brought with us; for this part of Florida is under what is known as the 'Prohibition Law,' the sale of alcohol being (nominally) forbidden.

The morning opened grandly. It was perfectly calm, the sunshine was brilliant, and I was strongly reminded of the Nile on a March day, yet Hart was dissatisfied. As we made our way up the beautiful creek, I looked at as much of the horizon as I could see, but there was not so much as a cloud 'of the size of a man's hand.' We proceeded leisurely, stopping now and then to dip our great palmetto hats into the water, in order that they might keep our heads a little cool, for the heat even at ten o'clock was almost too much for endurance. Among the other contents of our boat were four dozen bottles of British beer which I had obtained with great difficulty for a party of young Englishmen who, I had heard, had formed a small settlement in this very creek. They had taken up their residence on an island there, and were endeavouring to earn a living by growing vegetables for the northern markets. I fear they fared but ill. One of them had the appointment as postman, worth 60*l.* a year. His duty was to convey the mail some hundreds of miles in a sailing boat, and out of this 60*l.* he had to provide himself with a boat and new sails.

I should like to say 'right here,' as the Americans have it, that the custom of shipping off young men to Florida is one that cannot be too severely deprecated.

The country is not rich; orange-growing sounds well enough on paper, but is in nine cases out of ten a most disastrous pursuit, infinitely more of a lottery, indeed, than growing hops at home. The 1895 crop, for example, has, according to the Press, been ruined by the frost. It is true that many young Englishmen who have been sent to Florida are scamps, but others are thoroughly hard-working fellows, and it is sad to see them living lives of semi-starvation. After seven or eight years' residence it is almost impossible to recognise the young public school or 'Varsity man. He has acquired the strange sallow Florida complexion, he has grown long and thin, his accent is infinitely more Transatlantic than that of the Eastern or Western American. He has lost all hope, and has almost forgotten the old country. Probably he marries some girl of humble origin

there, settles down to a life of 'plume hunting' (shooting rare birds for their feathers), button-wood cutting, or some other precarious and arduous existence.

By way of experiment, I brought home one of these young Florida Englishmen, who was never able to earn more than a bare pittance during his five years there. He obtained active employment here immediately on his arrival, and is now on a fair way to a competency. His employer describes him as 'one of the hardest-working lads he has ever met.'

Many young Britons in these far-away settlements are completely forgotten by those at home. Some of them have not received an English letter, or seen an English newspaper, for years. The particular youth I have in my mind was an orphan, whose guardian had neglected him; and it was strange to find that the boy had at one time occupied a leading position at one of our great public schools. His four or five years of semi-savage life caused him to completely forget for a time his spelling and writing.

This has nothing to do with fishing, but it is curious to note that in the famous Tichborne trial a great point was made of the fact that 'the claimant,' as Orton was called, had completely forgotten his French in his wild life in Australia. I found that numbers of these young Englishmen of good birth, breeding, and education had become uncouth and ignorant, and the monotonous and semi-barbarous existence had the curious effect of almost destroying their memory of home things. It is impossible to imagine the isolated existence they lead. In the northern part of Florida, though the English do not appear to flourish, they have, at any rate, decent surroundings. There I met with a retired colonel in the army who was driving a milkcart, while his wife—an extremely refined woman, who had been accustomed to the society of her station at home—was helping to eke out their existence as a washerwoman, working at the same tub with black women. The gardener at one of the hotels we stayed at was a public school boy. A rough man, who earned his living by carrying fruit up and down the coast in a boat,

was a graduate of Trinity College, Cambridge, had almost completely forgotten his native country, and had not the least desire for any other kind of existence than the adventurous life he was leading.

But to hark back to my day at Marco. We had gone about a mile, and Hart was resting on his oars for a moment, when on a sudden, within three feet of the boat, there was a huge swish and swirl—a miniature maelstrom for a moment—and there appeared a great black back and huge projecting fin.

'Tarpon,' said Hart.

It was my first sight of a big fish, and I must frankly confess that I felt nervous when I looked at my comparatively small rod and its frail line. He must have been a daring fellow who first thought of the idea of killing a tarpon with rod and reel. Presently the excitement of the sport was upon me. We proceeded as rapidly as possible up the creek, and anchored under the lee of an island. During the night Hart had gone out with his casting net and captured a couple of dozen mullet, varying in size from twelve to eighteen inches. In a moment he had his knife out, and off came the head of a mullet. Then he threaded the hook through it with a large skewer, attached the leather trace to the line, and cast for me—not a long cast, under the circumstances—perhaps twenty-five or thirty yards. The bait sank to the bottom, and I sat with the check off the reel, and some loose line gathered in the boat, awaiting events.

Every kind of fishing has its drawbacks, and tarpon is not without them. What wind and trees are to the fly fisherman, catfish, sharks, seaweed, and the tide are to the tarpon fisher. At Marco there are few catfish, but there were lots of sharks and seaweed. I have heard that the tarpon is such a shy and sensitive creature that, as it travels along the bottom of the river in search of food, it would immediately drop the mullet if it felt the least drag attached to it. The tide causes the seaweed to form round the sagged line, the tarpon lifts the bait, finds it suspiciously heavy, and is off like lightning.

During my experience the water was never clear enough to see a tarpon take a bait, but I was assured by one guide that it picks it up in a most gingerly manner, travels about eighty or a hundred yards with it, and then stops to swallow it leisurely. Another man, however, denied that the fish stopped.

Our trouble at Marco was principally seaweed. The rough weather of the day before had brought it heavily to the mouth of the pass. It was early yet. Now and then, in the distance, you could see a great swirl in the water, and a tarpon rose, but they kept very clear of our boat. We sat leisurely smoking in the brilliant sunlight, and at the end of twenty minutes I reeled in and found that my bait had been swallowed by a huge shell fish, a conch. It weighed between seven and eight pounds, and we had to cut it open before we could get the hook out of it. In appearance it was not unlike a gigantic whelk. From time immemorial a hole has been cut through the top of this shell, and it has been formed into a kind of signal horn. This was an amusing, though not a brilliant, beginning. We put on fresh bait, moved forty or fifty yards, and cast in again. The day was getting hotter. The great fish began to rise (for air) very numerously. After a time we took to counting the rises, and I am not exaggerating when I say that within sight of my field-glasses (we could see close upon a mile in one direction) there were over fifty distinct black fins showed during that morning.

Another cigar (Havannah is very close to Florida, and there is a good deal of smuggling going on), the decapitation of another mullet, a fresh cast, and we settled down to watch the dial of my reel. I found Hart a pleasant and remarkably well-informed person. There were few modern books of adventure with which he was not acquainted, though not many authors could have produced a more exciting tale than the history of this man's life, spent as it was in exploring the vast, unknown recesses of the Everglades in search of the egret's plumes, with which fashionable ladies adorn their hats and hair. His existence had been hard and solitary, and, though he is now attaining a

certain prosperity, he has spent some thousands of nights camping out alone in that strange snake- and panther-ridden country.

Our chat is cut short, however, by a sudden disappearance of the loose line over the side of the boat. Then the reel began to run out like lightning. The excitement of the moment was terrific. One's first salmon, one's first tarpon, one's first tiger, are, I should imagine, the most tremendous moments in a career of sport.

To strike or not to strike is a question that greatly agitates the tarpon fisher. There be those who say that the fish will hook himself. On the other hand, many consider it imperative to strike, and strike hard. Both have equally good arguments. I struck, and within some fifty yards from the boat, but quite in a contrary direction from that in which the line was running out, a monster fish leapt from the water. Immediately at the beginning of the run Hart had pulled up the anchor and we were drifting. When he saw the direction in which the fish had leapt he looked grave. The line covered with seaweed had sagged tremendously; he feared that the fish had dropped the bait, and he was right. I wound up and found that my intended victim had seized the mullet, and, in that curious way fish have, had ejected it some feet up the line. This power of fish is one I cannot understand, but I have noticed it with almost every kind of game and coarse fish I have captured. In tarpon fishing this action is a source of danger. Occasionally a man will get a tarpon well hooked, the bait will be ejected a considerable way up the line, and taken by a shark, who makes very short work of the reel line and is off. The shark, by the way, is said, though probably not in good truth, to be the mortal enemy of the tarpon. A nigger sang me a quaint old song about the shark and the tarpon and their midnight fights.

We were gloomy and disappointed. Still the day was young and the fish were rising numerously, though it is by some guides not considered a good sign when they are on the top of the water. I cast in again, and almost before the bait had got to the bottom it was taken.

There are guides who say they can tell in a moment if it is the 'bite' of a shark, tarpon, or jew-fish. The Florida jew-fish is a huge monster who moves slowly when hooked, but I am bound to say that I did not find any guide who was absolutely infallible in detecting the respective runs of sharks and tarpons. A shark is said to swallow the bait, swim rapidly for a few yards, stop, go on again, and so on. Now, on two occasions during my visit to Florida I found that Master Shark did nothing of the sort, and I had ample opportunity of proving that these fish were sharks in both cases. In the particular 'run' I am describing, the shark went off quite as fast as a tarpon and did not pause. Perhaps, as Hart afterwards suggested, he was being chased by some other shark. When the correct one hundred yards of the reel had run out I struck. There was the usual commotion at the top of the water, though not exactly a leap, and we both thought that I was in for a tarpon. The fish, whatever it was, swam hither and thither at lightning speed, and then on a sudden it stopped. I struck again, knowing that if it were a tarpon the pain would cause it to rise to the top and leap. It did not do so.

'I am afraid it is a shark, sir,' remarked my guide.

There are many people who think that shark fishing is done over the side of a ship with a huge piece of pork attached to a hook about twenty times as large as that used for any kind of fishing. From the days of our youth we have heard of this kind of thing, and no doubt they can be caught in this way; but with the aid of a revolver, or a long spear, a short stout rod, and fine tackle, shark can be killed like any other fish.

I can assure those who have never killed a shark on a line that this particular fish gave me any amount of excitement. Hart rowed as fast as he could, and I reeled in rapidly to gain line, for woe betide the tarpon or shark fisher if his line is overrun. I got within probably thirty yards of the fish, when he was off again, and he ran down a branch creek for close upon half a mile. A big shark can tow a boat a very considerable distance; but there seems to be one way of tiring him, and that is, to

get to one side of him, and then, using one's rod as a lever, swing round and pull against him with all one's force. In course of time that seems to exhaust him, and, revolver ready, one can reel him in, shoot him through the nose, and let him go down with the current, to be torn to pieces by his voracious brothers. My shark was evidently tired when we got up to him, and I could see his great seven-foot body looming green and hideous beneath the water. What a loathsome-looking monster a shark is! It is said that he has the cruellest teeth and eyes and the smallest heart of anything that swims. As I drew him up I thought he was practically dead. I made a shot, but, owing to the rocking boat and the excitement of the moment, was not sufficiently accurate. I hit him in the back of the neck. For a moment I thought the boat was upset. He lashed the blood-stained water furiously, and the reel, upon which I had put the check, gave such a screech as I have never heard from any reel before. He ran out some hundred and fifty yards of reel, but as I drew up to him again he was obviously getting tired. There is a mental process in angling which enables one to know when one has at last gained mastery of one's fish, and so it was with this shark.

I got him to the top of the water again. He made a violent struggle when he saw the boat, but this time my aim was truer, and I put three shots through his nose. It is usual to cut loose one's shark, and I should not have taken such trouble with this one, but that I had given a good many of my hooks to some brother anglers who had not come well provided, and I was therefore really short of them. To Hart was accorded the unpleasant task of disgorging this hook from the monster. The creature's backbone with a wire down it has made an excellent walking-stick, I may observe, and a portion of his skin has been turned into pocket matchboxes.

We had wandered completely out of our course. No tarpon were known to be in the water near us, and we were thinking of returning; but, despite the bright sunshine, a change had come over the weather, and I know of no part of the world

in which the weather alters more rapidly than in Southern Florida. The wind was sighing in the mangrove trees, and, though the sun shone as brightly as ever, the air grew strangely chilly. By the time we had gone back the mile we had lost Hart was despondent. There were no tarpon rising. All we could see was a great porpoise, which rose within a few yards of us, blowing as emphatically as a steam engine.

'I am afraid we shall get no more sport to-day,' remarked Hart.

And he was right. We fished for another hour until the storm had come upon us, and then we turned back to Marco.

On our way we met a small sailing boat in which there were the very young Englishmen for whom we had brought our informal introduction in the shape of bottles of beer. They had not tasted Bass's ale for some years, and were delighted.

It is obvious that one of the most important things in tarpon fishing is a good guide and boatman. Just as a bad gaffer can and does lose any number of salmon, so does a bad boatman who does not know how to gaff bring about endless disappointment to a tarpon fisher. A good many of the Florida fishing guides are coloured men; but with one exception, Fulton Maguire at Punta Gorda, I would not recommend them. Maguire looks to me like a negro with a good deal of Indian blood in him. I found him an excellent and most intelligent companion and most anxious to kill. The ordinary niggers seemed to me to be very lazy, inclined to be extremely impertinent if one treated them with the same familiarity one would adopt with an ordinary gillie, and altogether without presence of mind.

A special kind of boat is used in some places, the peculiarity of which is that it has a revolving seat in the centre, with a small cup in front, in which to place the rod when playing a fish. In the course of a long fight it might be necessary to sit down, but the ordinary boats seem quite suitable. In case anyone thinks of taking a folding boat to Florida, I would say that it must be flat-bottomed, for in travelling one had to pass over many shoals. I do not fancy an ordinary canvas collapsible

boat would be much use. The shoals are, as a rule, covered with oysters, which, though excellent to eat, have extremely sharp shells. They play havoc with even a stout canoe.

Capturing a tarpon—though only a ten-pounder—on one of Farlow's light greenheart trout rods is a feat upon which I pride myself. According to Colonel Haldeman, of Louisville, Kentucky—whose contribution on tarpon fishing to the well-known volume, 'American Game Fish,' is most admirably done—small tarpon are but rarely taken. One day I had been for some hours trying with a phantom minnow in the Gordon River. Neither rod nor line was suitable for the task, and I had been cheerfully informed that spinning for young tarpon was hopeless work; that one American gentleman, indeed, had been steadily essaying the feat for three seasons without result. However, I was weary of killing the various fish described at the end of this paper, and thirsted for something difficult.

Several hours of angling in the blaze of the Florida sun are sufficient for most of us, and I felt weary and dispirited. There were several young tarpon about; we had seen them. I resolved on a final try. The waters met at the end of a long island, and I cast into the swirling ripples on either side of me. The line tightened, the reel screeched, and I was into something big. That day I had brought to net and gaff some seventy pounds of various fish, and for a moment I imagined that my prey was a big 'channel bass.' I thrilled a moment later when, with a magnificent leap, a 'silver king,' an unmistakable tarpon, sprang up fiercely and came down again ready for another rush.

We were off after him without a second's delay. He took us hither and thither at a speed that made us despair of getting him. It is perhaps the uncertainty, the nervous fears as to the strength of one's cast, one's line, and one's rod that help to make angling what it is, and I had my fill of all these sensations on that occasion, for none of my tackle was suited to its work.

One great danger of the episode was the attempt of my friend to get to 'weed'—to the roots of the mangrove trees. This

had to be avoided at all cost, and, with many a foreboding of disaster, I strained my little rod to the utmost and turned the fish's head down stream. Up he came again into the sunlight, shaking his head savagely, off to the other side of the pool, up again and again and again. Presently he slackened, and I reeled him in a bit. Heavily handicapped by the shortness of my line, I was obliged to be after him during the whole of the contest, and the sturdy frame of my most skilful of boatmen was showing signs of a breakdown. He had been up and down stream all the morning, and the afternoon sun was at its fiercest.

It is stated that every time a tarpon 'blows' he gains another ten minutes' strength. My fish came up for the purpose often enough, but, fortunately, he counteracted his breathing by an extra number of jumps. How one holds one's breath at the sight of these magnificent leaps for liberty! They form the most anxious moments of all for the man who knows that at best his fish is but slightly hooked. I knew this only too well, for my minnow was practically worn out when I began my afternoon's work.

Master Tarpon tried a new move. He made straight down stream, and I kept as much strain on him as I dared. I think he helped to drown himself by his last manœuvre, for his next leap was a feeble one. The last moment was approaching, the most anxious one of all. There's many a slip 'twixt fish and creel. The awful thought, 'will my gaffer fail me?' has occurred to all of us. Fortunately my friend—I could have embraced him at the moment—got the little beauty—he scaled just over ten pounds some time afterwards—safely into the boat, and that night the fish, the first of the season at Naples-on-the-Gulf, was laid out at the pleasant little hostelry in that most charming of spring resorts and duly admired and toasted.

All this is purely personal and much too egotistic, and the intending tarponeer, if I may make a new word, is anxious for practical advice. Having killed your tarpon, what should you do with him? You wish to preserve him, of course, and to get him home. If you are on the Gulf of Mexico side of

Florida, you cannot do better than send to Frederick Steensgaard, taxidermist, Fort Myers, Florida. Lay the fish with its best side downward (one side is sure to be injured by the gaff) on some sacking, or other soft material. Make a cut in the side of the fish, about three inches from the belly and in the middle, removing the entrails. Put in four or five handfuls of salt, and fill the opening with moss or grass. Now turn the fish with its best side up, and forward to the taxidermist, carefully covering it with sacking or canvas, and mark it 'This side up.'

Mr. Steensgaard is a good sportsman, as well as a fish mounter. He will fix your tarpon for you at what we should consider a very moderate price (2*l.* to 5*l.*), and he forwards it to England for about 1*l.*

As a rule tarpon are mounted on a board, and not usually kept in a glass case. Do not hang your fish where the sun shines on it, or the scales will become discoloured; and be careful not to hang it over a fireplace. If it should become dusty it should be carefully rubbed with a duster; if stained or fly-specked a very small quantity of spirits of wine should be applied.

## BRIEF SUMMARY OF INFORMATION FOR INTENDING TARPON FISHERS

WHERE TO GO.—Book to Punta Gorda, in Florida, *viâ* New York and Jacksonville. From Punta Gorda access to Fort Myers, Punta Rassa, Naples, St. James City, or Marco is easy. Fort Myers is the most popular resort, and records most 'kills.' Access by steamer.

BEST TIME TO ARRIVE.—March, April, and May. It is often too cold earlier, and much too hot to be pleasant later.

COST OF THE TRIP.—The cost of a trip to Florida, including return ticket from Liverpool to New York by a White Star steamer, train or steamboat from Jacksonville to New York City, train from Jacksonville to Punta Gorda, and then by boat, including a month's stay in Florida and hire of guide (ten shillings daily), should not exceed from 100*l.* to 120*l.*

Living is not dear at the hotels. The kind of people who go for tarpon fishing are not those of the objectionable type who wish to make a splash with their money. If one is going to remain at a place for a time, it is well to make an arrangement with the hotel proprietor, as a considerable reduction can be effected thereby.

Food, as a rule, is reasonably good, fish and game being so abundant, and the American system of transporting beef from Chicago to all parts of the Union enables remote districts to get a good supply.

## THINGS WHICH MIGHT BE USEFUL FOR A GENERAL SPORTING TOUR IN SOUTHERN FLORIDA

Nearly all the items in the following list are, in my opinion, absolutely essential if proceeding to the wild parts of the country. The most frequented parts of Florida are as civilised as any other fashionable winter resort.

Four tarpon rods (many anglers use this number at one time), four reels, six to ten dozen hooks and snells, three cotton reel lines, tarpon belt, very wide-brimmed hat, mosquito nets, very large light hat, revolver, rifle, hunting knife, gaff, light salmon rod, trout rod, large gaudy flies, phantom minnows, spoon baits, ordinary trout and salmon tackle, waist belt for carrying money, waders, ammunition, tent, hammock, camp cooking apparatus, folding flat-bottomed boat, hand camera (it is the best possible climate for photography), light summer clothing, and warm clothing also, small medicine chest, wines and spirits.

If the reader takes a map of Florida, he will find a great portion of it is unexplored. In such districts one can get nothing and should be prepared for any kind of emergency. Mule waggons can usually be hired.

## OTHER FISH IN FLORIDA

There is, of course, any amount of other fishing in Florida, though it is naturally not thought much of by tarpon anglers.

The 'lady' or 'bone' fish is a game specimen, but, not being an ichthyologist, I am unable to class it scientifically. It is long and slender, and such as I caught ran from four to eight pounds, though I heard of much heavier fish. It is usually got by spinning from a boat at the mouth of a river or creek with phantom minnow or spoon. When struck it leaps in a very remarkable manner. Its brilliant silver colour reminds one forcibly of the tarpon. I killed seven or eight on one particularly warm morning, and found that they tried a single-handed built cane to the utmost.

The jack fish, or 'horse fish' as some people call it, is very plentiful in Florida waters. It is not pretty to look upon, hog-backed in shape, parchment in colour, but it will take almost any kind of bait, fly, or small spoon. It was so numerous occasionally that it became a nuisance, taking a fly immediately it touched the water, time after time. At another time it could not be killed with either fly or spoon.

The catfish, that vermin of the ocean which one finds in all parts of the world, abounds in these southern waters. If one tried to see how many fish one could kill with a fly in a day, I think the record would be made by the man who went for these unpleasant creatures, though a good deal of time would be wasted in getting them off the hook and avoiding their poisonous spine.

The rovallio is a fine sporting fish, not altogether unlike our pike in appearance. One morning in the Gordon River I started spinning from a boat. The first five fish I killed all belonged to different varieties. After I had brought to creel six jack-fish, there came at my minnow something that looked remarkably like a pike, and a big one. I guessed him as weighing at least twenty pounds, and gave up in despair the idea of killing him with a light greenheart rod. He fought doggedly and brilliantly. Many times in my tussle with him did I tremble for my tackle; many times was my American guide, whose admiration for English rods was not of the greatest, prepared for the 'I told you so,' as the frail greenheart

doubled and strained. After a time he came in easily and stupidly, as a grayling occasionally will. When I thought I had him, he, like a grayling, made his best rush of all. He was off and away, and I thought it best to let him work his wicked will. As he slowed down I wound the line against him, and gave him all the butt I could. The guide backed the boat towards him. I reeled up rapidly, and before he knew where he was he was gaffed.

As a rule, I do not think it fair to gaff a fish under ten pounds, and this gentleman weighed barely eight. He was a rovallio, and I was lucky in killing many another before I left Florida.

The red or channel bass is a most beautiful fish, and game as one could desire. In colour he is a dark coppery red. He is usually killed at the mouth of a river. My first channel bass was caught some three miles from the sea. Like the tarpon I caught in the Gordon River, he was the first of the season. Channel bass go to forty pounds.

# CHAPTER XVI

## WHALING

By Sir H. W. Gore-Booth, Bart.

### GREENLAND WHALE—BALÆNA MYSTICETUS

'A FA—A—A—ALL![1] A fa—a—a—all!' No man with the true British instinct of sport running in his veins will ever forget the first time he heard

[1] A 'fall'—three derivations are given to this word: 1st. Dutch word 'val,' signifying man the boats; 2nd. Dutch word 'wall'—pronounced 'val'—a whale; 3rd. English word 'falls,' viz. stand by the 'falls' or tackles by which the boats are lowered.

A WHALER

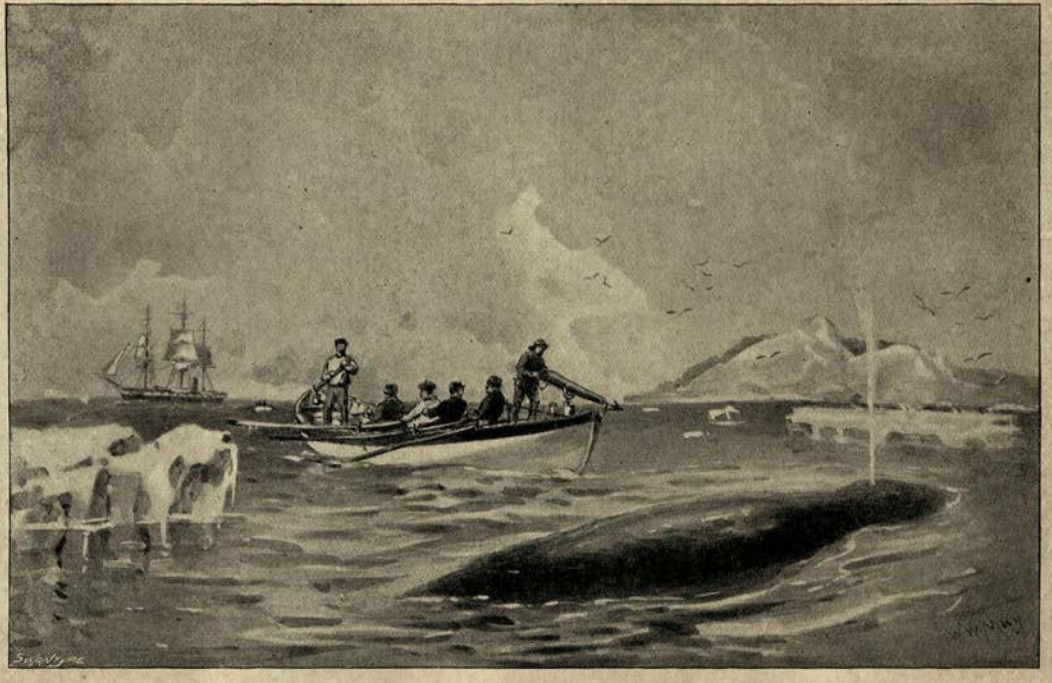
this old whaling cry; indeed, for anyone to thoroughly realise the excitement this yell produces on board of a whaler, he must have been present and have assisted at the capture of a fish.

Let the reader imagine a whaler with her maintopsail aback more or less surrounded by ice, and two boats on the 'bran' (an expression used for a boat on the look-out for fish when none are in sight), the oars in the men's hands but carefully kept out of the water, placed at such points along a floe or near a heavy piece of ice as from long experience the old skipper considers the most likely point for a whale to appear.

A fish suddenly rises near at hand, and the boat-steerer, sweeping the boat round gently with his long oar, sculls noiselessly towards the monster. The skipper in the 'crow's nest' (a barrel placed at the highest feasible point on the mast, from which the captain or one of the mates keeps a look-out for fish or leads through the ice) has made out the whale nearly as soon as those in the boat, and bringing his powerful glass to bear, discovers she is of no ordinary size, and that her bone will probably measure between ten and eleven feet, which generally realises about a ton of whalebone—a valuable prize in these days.

The harpooneer rises to his gun, there is a puff of smoke as the missile buries itself deeply in the fish, and, swinging the discharged weapon out of his way, he thrusts or throws the hand harpoon in also. Promptly the boat-steerer sweeps the boat clear of the fish, runs his oar out of the way, and tearing off the line cover, assisted by the line manager (who pulls stroke oar), carefully tends the line as it runs rapidly down the centre of the boat. The rest of the unoccupied crew place seal clubs, boathooks, or anything else that will answer the purpose, in such ways as will prevent the line getting foul of anything in the boat.

Owing to the position of the boat and a heavy piece of ice which obstructs his view, the skipper cannot see what has happened; but hardly has the dull report of the harpoon gun



'A FISH SUDDENLY RISES CLOSE TO ONE OF THE BOATS

caught his ear than he sees over the ice the fast flag[1] rise, and a faint cry of 'A fall! a fall!' comes over the water, taken up by those on deck, and, rumbling down into the officers' quarters and forecastle, gathers volume as the men bursting up from below, many of them half dressed with their clothes tied in a bundle snatched hastily from a hook especially provided for the purpose alongside their bunks, rush to the five or six remaining boats. Each man, as he reaches the deck, makes for the nearest unoccupied seat or thwart, except the harpooneers, boat-steerers, and line managers, who retain their position in any boat.

In the meantime a harpooneer at the falls forward and a boat steerer aft lower the boat into the water, dropping into it the quickest way they can, often by sliding down the falls. The falls are unhooked, and pulling two or three oars the scantily dressed members of her crew struggle rapidly into their clothes. Indeed, in an incredibly short time, probably less than three minutes, every boat will be clear of the ship, and rowing to the position assigned to it by the skipper in the crow's nest, who, observing which way the fish is heading, will endeavour to so place his boats that one of them shall be near the fish when she rises.

If there is any danger of the fish taking the whole of the fast boat's lines (600 fathoms or 1,200 yards), which is not at all an uncommon event, a signal is made by holding up an oar with a bucket on it, and should the line in the boat be rapidly decreasing, two, three, or more oars will be added according to the emergency of the case; then the nearest boat will race up, and detaching her harpoons bend on the end of her lines to the look or eye which is spliced at the end of the 'stray line' of the fast boat.

[1] Each boat is supplied with a jack or fishing flag, which is kept flying until the fish is either lost or killed. The ship has a similar flag, so that when a number of ships are in company the crews can distinguish which ship's boat are fast to the whale. As long as your harpoon is fast to the fish and you have hold of the line it is your fish. If another ship's boat fastens your fish under these circumstances, even though your harpoon draw afterwards, it is still your fish.

In the meantime the whale, whose speed on being first fastened is estimated to be from eight to ten miles an hour by that careful observer and scientific whaling skipper, Scoresby, has taken from a line and a half to two lines; but the harpooneer, watching his opportunity, has got a turn or two of the line round the bollard head, which considerably depresses the bows of the boat, and cutting into the hard wood produces smoke, on which No. 2 is pouring water to prevent it from catching fire.

In about thirty minutes[1] the fish rises, if all goes well, near one of the loose boats, which, racing up to her, places harpoons as circumstances best allow, and if the boat happens to be very near and the fish much blown, there may be time to get in a thrust or two of the lance. These tactics are repeated until the victim has received sufficient harpoons to insure her capture, then each time she rises and a boat can approach her the lance alone is used, till at length she spouts blood, dyeing the water and boats red, and finally rolls over on her side or back, dead, when all hands cheer frantically.

Her death is sometimes preceded by a violent struggle, in which she lashes the water into foam with her head, flukes, and tail. The foregores are detached, and the lines coiled back into the boats. The whale is then prepared for towing alongside the ship, which is done by cutting a hole through the two fins, passing a line called a 'fin tow' through these holes, and lashing the ends together on the belly of the fish. The tail is then roused up to the bows of the boat, and the men proceed to tow their capture towards the ship. Unfortunately there is no space in this short chapter to describe flensing (pronounced flinching), i.e. the process of securing the valuable portions of the whale from the carcass.

The old fisherman's eyes sparkle as he describes the death of a forty-pound salmon, or a huge tarpon in Florida; the old hunter yarns about that thirty minutes across the stiffest country

[1] Scoresby says the average stay of a fast fish under water is thirty minutes; the longest he observed was fifty-six minutes; but he adds that he has heard of fish in shallow water remaining an hour and a half.

in the kingdom; the stalker buttonholes you about that monster stag; but the writer, who has been fortunate enough to participate in all these sports besides others, must here record that nothing, even his biggest salmon in Norway, ever surpassed the rush of his first whale. Just imagine a fish weighing seventy tons,[1] worth over 3,000*l.*, at the other end of a two and a half or three-inch line!

In 1892 whalebone was valued at over 3,000*l.* per ton, but sold only for 1,300*l.* a ton last March, owing, in all probability, to a big catch the Americans had in Behring Straits. Whaling may be cruel, but as long as these fish remain so valuable they will be hunted; and, if so, why may anyone not get his share of the sport, particularly as it is pursued at considerable risk? Indeed, the fairest, gentlest, most philanthropic ladies of the land are one's aiders and abettors; for is not whalebone used in the construction of their wearing apparel? Whale oil is also largely employed in the manufacture of jute and Indian fibre used in making cheap carpets; so we are all more or less implicated.

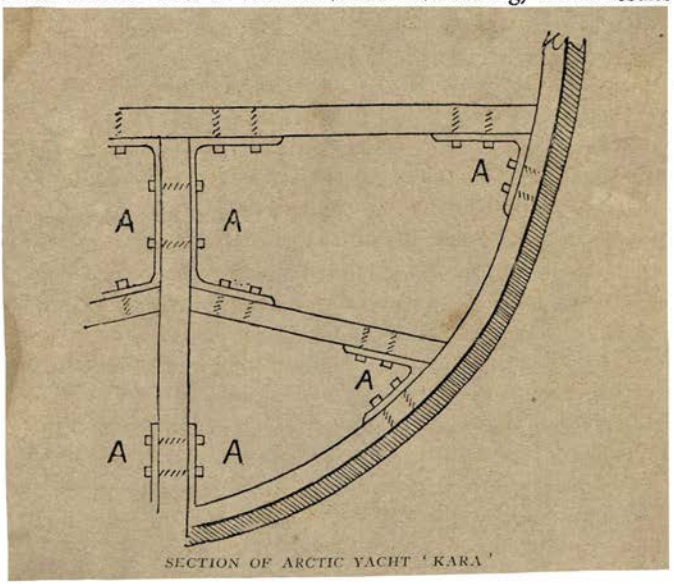
As a profession it is a healthy life, but a hard one. Wages from the captain downwards depend in a great measure on the success of the fishing, each man receiving, according to his rating, so much bone and oil money in addition to the low rate of pay he signs articles for, and the voyage often ends in disappointment; indeed, 'clean' ships (as unsuccessful whalers are termed) have become much more frequent of late years, and this fishing industry seems to be declining.

By referring to Martin's 'Voyage to Spitzbergen' (Hakluyt Society, 1855), it will be seen that formerly whales abounded along the ice at various points from Jan Mayen to Spitzbergen, and in the bays of the latter island; but even in Scoresby's time they had deserted many of their former haunts, and every year they retire for protection from their greatest enemy, man, further and further into the ice. The writer has,

[1] Scoresby calculates the weight of a full-grown whale at seventy tons, and believes the largest specimens would weigh about a hundred tons.

however, heard whalers assert that there are as many fish as ever, if you can only find them, and the conditions of the ice will allow of their capture.

That there are as many as ever is very doubtful ; but if the ice is suitably placed as it is in some years, with a good ship and crew, a very prosperous voyage might still be made. Old hands also say that, owing to the bad catches of late years, a much inferior class of seaman follow this calling, which results




SECTION OF ARCTIC YACHT 'KARA'

in whales being scared by jealousy, misses, and bad management when a fish is fastened. The vessels employed in this fishing run from about 250 to 500 tons, and are built as strong as wood and iron can make them. Wood is found to bear the pressure of ice better than iron ; for although a wooden ship may be almost squeezed out of shape, provided nothing gives way when the nip eases off, she will regain her lines.

In 1857 the *Innuit*, the first steamer ever employed in this fishing, an iron vessel, made a good voyage to Davis

Strait; but she was lost in 1859, together with the iron steamers *Empress of India* and the *Recruit*, in rough weather, by striking the ice. Since this, only one other iron whaler appears to have been employed, viz. the *River Tay*, which shared the same fate as the above vessels, and was crushed by the ice in Davis Strait in 1868. Iron is principally used as 'hanging knees' to strengthen and fasten beam ends together, &c.; but as readers may not understand the meaning of the term, a sketch of a section of the Arctic yacht *Kara* is given (p. 474), showing how these hanging knees are used to assist in fortifying the ship.

To further protect them from the ice, they are double for a considerable distance above and below water-line, with a wood called iron bark—so heavy that it sinks in water. If this is not procurable teak and sometimes oak are used as substitutes. Their bows are protected also with steel plates. These precautions are very necessary, for a whaler in the pursuit of her calling has often to bore her way through ice, charging it repeatedly, and may be beset any time, receiving great pressure. Indeed the epitaph on many a fine vessel engaged in this fishing is, 'crushed by the ice.' In these days ships are all provided with steam, but at the same time they carry plenty of sail power, as on the fishing grounds, or if fish appear, the screw is immediately stopped.

All whalers assert that the black fish, as the Scotch fishermen term the Greenland whale, is an extremely timid animal, and any noise will alarm her; indeed, a harpooneer declared to me that once when approaching a fish he saw her apparently listen and then tremble as if she were aware danger was near. Formerly the blubber was put into barrels, but now the ships are fitted with tanks in which coal is stowed on the outward voyage.

Each ship usually carries from seven to eight whaleboats, from 26 to 30 feet long, about 5 ft. 9 in. beam over all, and depth amidships from 28 to 30 inches. These boats have very little keel, and curve slightly up to the stem and stern-post, which, as they rise from the keel, slope outwards. The object of this peculiar build is that the boat may turn quickly to the

motions of the whale, and enable the boat-steerer with his long oar to sweep clear of the fish when fastened. On the bows two sheets of copper or zinc are nailed to protect the wood from the ice. In the stem-head is cut a score or notch about three and a half inches deep, by about two and a half inches wide (in fact, sufficiently wide to allow the line, be it two and a half or three-inch stuff, to run freely). From the stem-head a small salvage deck is carried aft for about three feet, and through this two bollard heads (pronounced 'bullet heads' by the Scotch whalers) project.

A bollard head is a piece of round upright lignum vitæ, or other suitable hard wood, from about three inches to, at the outside, five and a half inches diameter. In the foremost bollard head a hole[1] is bored to take the crutch on which the harpoon gun rests. On the port side of the stem a small eye-bolt is screwed, and to this is carried a preventer stay from the crutch of the gun to take some of the recoil of the shot, which, considering that the harpoon and shackle for the attachment of the foregore weighs from eight to twelve pounds, and is driven by from five to six drams of coarse powder, must be very severe. In addition to this, for fear of losing the gun if the crutch and preventer stay give way, there is another line, fastened to the bend of the crutch and carried down through the salvage deck, where it is belayed. This is a very necessary precaution. Crutches do sometimes break, as the writer knows to his own cost.

The other bollard head is placed about fourteen inches aft of the gun bollard head in the centre of the boat, leaving sufficient space to take round it one, two, and sometimes three turns of the line; so that as much strain as is safe can be brought to bear on the fish. The line cuts deeply into the bollard head, often leaving a mark as if a red-hot iron had been applied;

[1] Round the top of the gun bollard head is placed a light iron strop or ring to prevent the wood from splitting when the hole is bored. This ring is put on warm and contracts when it is cold. In the boat which the writer measured when writing this chapter the gun bollard head is placed a little on the port side, 1 ft. 3 in. from outside the score. Boats vary, it is right to say.

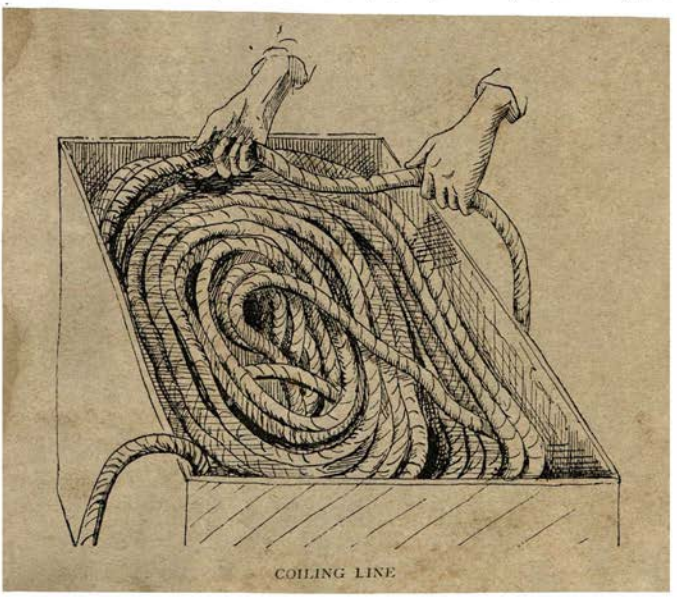
indeed, to prevent the wood from catching fire, water has to be poured on it.

On the port side, close to the gun, the foregore tub is bolted. This is simply a wooden tub, about one foot in diameter and six or eight inches in height, containing from ten to twelve fathoms of beautifully made Manila line, which is spliced to the gun harpoon shackle at one end, and either spliced or hitched (according to the ideas of the skipper or harpooneer) to the whale line just outside the score. The bight of the foregore is carefully coiled down Flemish fashion in the tub, so that it will run freely when the harpoon is fired. A whale line measures 120 fathoms, and varies from two and a half to three inches of beautifully made soft laid Europe (or tarred rope), especially manufactured for the purpose. Manila hemp is used, and, I believe, the Americans employ little else. The writer has used both sorts, but decidedly prefers the tarred rope. In a cold climate Manila gets very hard, and takes such turns and twists that it is very troublesome to coil down after you have killed a fish; indeed, sometimes it has to go overboard and be towed to take the turns out. A great deal of the American whaling is done in warm climates, and it is also quite possible that we cannot get the best Manila over here. Manila has one great advantage —viz. it is much lighter; a two and a half inch tarred line weighs about 1 cwt. 1 qr., whereas a Manila two and a half inch weighs a little over 1 cwt. The writer does not know whether there is any difference in strength between the two sorts.

Each boat carries five lines, which are spliced together either by a long or a short splice, whichever the skipper approves of most. The advantage of a long splice is that it runs freer, but some harpooneers maintain that it is more likely to draw, and if it becomes necessary to cut lines, or separate them at the end of the voyage, there is a great deal more waste. On the whole, probably the short splice is the best, provided care be taken that it is not left too big to run freely through the score. In the centre of the boat is placed a box to hold part of the lines, and the remainder are flaked down in the stern sheets,

in a spot prepared for their reception with a painted canvas cover to preserve them from the weather.

We will now proceed to coil the lines in the boat. An eye or loop is spliced on the first line, and a few fathoms of the end of the line are left out of the box. This is called the 'stray line,' and in the frequent event of a fish taking all the lines from the boat to which she is fast, it is passed to another boat, when the harpooneer of the loose boat, detaching his



COILING LINE

harpoons, bends on the end of his lines to this eye. The harpooneer of the fast boat, when his lines are nearly out, casts the remaining few fathoms overboard, the fast flag is struck on the first boat (which then becomes a loose boat), raised on the second boat, and the harpooneers change boats.

The harpooneer who first fastened the fish changes from boat to boat, as the different boats' lines are attached and taken out, until the fish is either killed or lost. Whales some-

times run out a great quantity of line, particularly if they take to the ice, where the boat is unable to follow them, in which case the vessel will perhaps come up and the lines will be brought on board. Fish have been known to tow the ship and boats at the rate of two or three miles an hour.

Having set aside the five or six fathoms of stray line, and been very careful to take all turns out of the lines, you begin to coil from right to left (when facing the box), or in other words with the sun (see illustration, p. 478), close up to the woodwork of the box until the line has covered the bottom. The part in your hands will then lead from the centre of the box, and to proceed, you bring this out to the side of the box again and coil as before. As you fill the box you preserve the formation of the spokes of a wheel from right to left (i.e. with the sun) with the part you bring to the side from time to time.

When the box is full you carry the line down the centre of the boat to the place prepared for its reception in the stern sheets, where you proceed as before, splicing on a line as required, until the full complement of lines are coiled, when you carry the end down the centre of the boat through the score and make fast to the foregore of the gun harpoon.

The foregore of the hand harpoon is about three fathoms in length, one end of it being spliced to the harpoon which has been previously served (wrapped) with spun yarn round the socket to prevent it from chafing, and in the other end an eye is spliced to form a loop through which the whale line is passed. Thus, if there is only time to put in the gun harpoon, the line can run freely through the loop; but if the hand is used as well, and holds, the loop runs down the line and jambs. On the starboard side, well forward, is placed a wooden rest called a 'mik,' on which rests the harpoon shaft—usually a stout piece of ash from five to six feet long, tapering towards the top from the harpoon—the barb of the harpoon being on the salvage deck forward.

To keep the points of the harpoons and lances sharp when not in use, they are greased and wrapped round with old canvas

or flannel and placed in painted canvas covers made for the purpose. On the starboard side there is a small locker or receptacle, open towards the bow of the boat, to further protect the points of the lances and hand harpoons. On the port side there is a similar locker.

*The full equipment of the largest size boats will be :*

*One harpooneer, who pulls* bow oar and is in charge of the boat.

One boat-steerer.

One line manager, who pulls stroke.

Three seamen.

One gun bollard head fixed firm in the bow.

One line bollard head, sometimes made to unship.

One harpoon gun.

One gun harpoon (the name of the ship stamped on it), with foregore spliced on.

One hand harpoon, the name of ship stamped on it, with foregore spliced on.

One mik.

Four lances.

Five lines, two and a half to three inches.

One hatchet (be careful to keep this sharp, and place it where it can be seized in a moment to cut the line).

One 'tail knife,' used for *cutting holes in the fins and* tail.

Mast and sail (occasionally).

Five pulling oars, from fourteen to sixteen feet.

One steerer oar, from eighteen to twenty feet.

Spare tholepins, grummets for each thwart, and thrum mats for the oars.

One jack or fast flag, with staff.

Two balers or small buckets.

Two seal clubs or boathooks.

One marlingspike.

One splicing fid.

One file. One foghorn.

One telescope (occasionally).

One compass.

Ball of spun yarn.

One 'tow rope' for towing dead whales.

One 'fin tow.' A rope used for lashing the fins together across the belly of the whale.

Snow shovels and knives.

One ice anchor or grapnel.

Small ice saw.

In addition to this it is well to take a rifle with ammunition, and a tin of hard biscuits. When you lower away after a fish, you never can be sure, owing to fog and other circumstances, when you will see the ship again.

The oars are worked with a single tholepin and a rope grummet (or grommet) on a small thrum mat to prevent

ALMOST ON TO THE BACK OF THE FISH

noise. Just clear of where the hands clutch the oar either a grummet is tacked on or a Turk's head is worked, which, when the oar is shoved out, will prevent its escape from the side of the boat. The object of working oars in this way is twofold: viz. (1) they are very easy to ship; (2) when shoved out they will follow of their own accord the motions of the boat, and not impede her progress. Scoresby says that Greenland whales are sharp sighted, but dull of hearing; hence they are best approached diagonally from behind, keeping well clear of the tail, and struck, if possible, well forward towards the fins.

Frequently the boat is urged to her utmost speed, and at the proper moment the boat-steerer will tell the harpooneer to rise. The harpooneer will let go his oar, which swings alongside, fire his gun, either throw or thrust the hand if there is time, and the boat-steerer will sweep the boat clear of the fish. This is a critical moment, as a fish on the receipt of the harpoon will often in her agony lash out with her head, fins, and tail, striking the boat in many instances. A rather smart thing was done by a harpooneer from Peterhead in a ship sailing from that port. He was in the crow's nest when, a fish being sighted, several boats were sent in pursuit. One of the harpooneers got a shot, but missed; and the fish, being extremely scared, made straight for the ship, away from all the boats in pursuit. The Peterhead man, grasping the situation, dashed through the bottom of the crow's nest, seized the main backstay, and slid down on deck with such velocity that his clothes nearly caught fire. Getting together a scratch crew, he jumped into a boat alongside and made for the fish, which, at the moment he reached her, was preparing for a 'header' (a term used by whalers when a fish is about to sound), and was already partly submerged. Letting the boat run almost on to the back of the fish, he depressed the muzzle of the gun and fastened her. The boat was smartly backed, and got clear out of an awkward position with no injury. One of the 'loose' boats got a second harpoon into her the first time she rose, and she was soon despatched by lances.

There is a very good story told of an old Scotch harpooneer racing for a fish against a 'Dutchman'—as Scotch whalers call all foreigners. Finding that the 'Dutchman,' who was leading slightly, was likely to get first up to the fish, he jumped up, seized his harpoon, and yelling out 'A whaul!' or 'A Dutchman!' hurled it slightly in front of the other boat, indeed so near that, to avoid the iron striking the boat or one of its occupants, the boat-steerer was forced to take the boat out of the way. It is probable that the 'Dutchmen' did not understand a word of what was shouted, but a harpoon so near them they did understand, and left the old Scotchman to secure his fish in peace.

Here is one instance of many to show how necessary it is to keep away from a fish's tail. In the year 1862 the *Lady Franklin* was fishing in Cumberland Gulf. One day, two fish appearing, a couple of boats were sent off in pursuit, when the skipper got fast to a fish which sounded, taking sixty fathoms of line. When she rose the 'loose' boat fastened her with a second harpoon, but as the weapon struck her she sounded (an expression used when the fish dives to the bottom), and with her tail upset the boat, throwing the crew into the water.

The crew of the other boat begged the skipper to cut the line and rescue the men in the water; but whilst he was hesitating what to do, not liking to lose so valuable a prize, the fish made in the direction of the men, and when the boat reached their vicinity a considerable portion of the slack of the line was thrown overboard, which arrested the boat's way sufficiently long to save all but the boat-steerer, who could not swim, and for the moment was thought to be drowned, until some one observed him hanging on by the iron ring on the stem of the rescuing boat in an exhausted state. He was picked up, and the whale eventually secured.

Unlike the sperm whale, the black fish seldom charges a boat, indeed the writer only remembers one instance when a fast fish made for a loose boat, and she was turned by the receipt of a gun harpoon in her head. Plenty of accidents to life and limb

are recorded in whaling books. My friend Admiral Markham had two narrow escapes. On one occasion he and the boat's crew were nearly carried down by the harpooneer taking three turns round the bollard head when the fish sounded without any warning, and the line, owing to the friction, would not run ; but fortunately the water rushing over the bow lubricated it, and it rendered just in time to save them. Another time he was knocked out of the dinghy when helping to kill a fish.

If readers want further information on the subject of the Greenland whale, they cannot do better than read the following books : 'An Account of the Arctic Regions,' 1820, and 'Journal of a Voyage to the Northern Whale Fishery,' 1823, by William Scoresby, jun. ; also 'A Whaling Cruise to Baffin's Bay,' by Albert Hastings Markham, 1875.

Little appears to be known as to the length of the life of a whale, but it is said some people profess to tell the age up to a certain date, beyond which they do not pretend to be able to arrive at it. In 1894 the *Balæna* was fishing in Davis Strait, and killed a fish, out of which was cut a harpoon stamped with the name of the ship *Jean*, of Bowness (Firth of Forth). Now the *Jean* was lost in 1861, so that, unless it fell into other hands, this harpoon must have been placed in the fish either in the year 1861 or previously to it. If we are to judge by other large animals, as, for instance, the elephant, whales must be extremely long-lived.

The above remarks apply to the Greenland Whale (*Balæna mysticetus*), the 'Black Fish' of the Scotch whalers, 'Bowhead' of the Americans.

### THE BOTTLENOSE (*Hyperoödon rostratus*).

The name Bottlenose given to these whales is derived from the peculiar shape of their head and mouth, which is extremely like that of a huge bird. They generally go either singly, in pairs, or in bunches of from three to seven, and, unlike the Greenland whale, are extremely inquisitive, rising close to a ship,

even a steamer when her screw is in motion, and playing all round her. On a calm day, from the 'crow's nest' or the rigging, you can sometimes see them under water, lying on their backs gazing up at the ship. They run from twenty to thirty feet long, and on an average yield about a ton of blubber, which is called 'Arctic Sperm.' It is said that the valuable part is the refuse of the blubber after the oil has been extracted. Out of the heads of the fish we caught in 1884, when 'flensing,' we took several bottles of pure oil which we found extremely good for burns.

There would appear to be two sorts—one a larger and light-coloured, nicknamed by the whalers 'Chaney Johns'; the other, smaller in size and darker in colour. The Scotch whalers were the first to capture these fish, in the year 1877; but not many were taken until 1881, when 111 were brought home, and in 1883 the number increased to 403. They are principally found from Cape Farewell in Greenland, to Iceland, Jan Mayen, and Bear Island, and they seem to keep on certain banks where jelly fish abound. Some whalers assert that these constitute their food. They are said never to enter the ice; so that any year in which the pack lies very far to the east, covering their usual feeding grounds, will generally turn out a good season for them, as a ship lying off and on to the ice will be in a good position to meet them going north along the edge of the pack. The end of April, May and June appear to be the months when most fish are taken, as they are rarely seen after the first days of July.

In 1883 the price of the oil was about 65*l.* per ton, and this, paying very well, induced the Scotch whaling ports and the Norwegians to fit out a number of ships for the ensuing year, consisting of vessels of all sizes, from schooners to the ordinary whaler. To give an idea of the number employed, we, leaving Lerwick on May 7, 1884, in my yacht *Kara*, took out letters for about twenty British ships to North Greenland, as the fishing grounds from Iceland to Spitzbergen are termed by the whalers. These fish are taken much in the same way as

the Greenland whale, except that the gun harpoon is alone used, their motions, as a rule, being too quick for a hand harpoon.

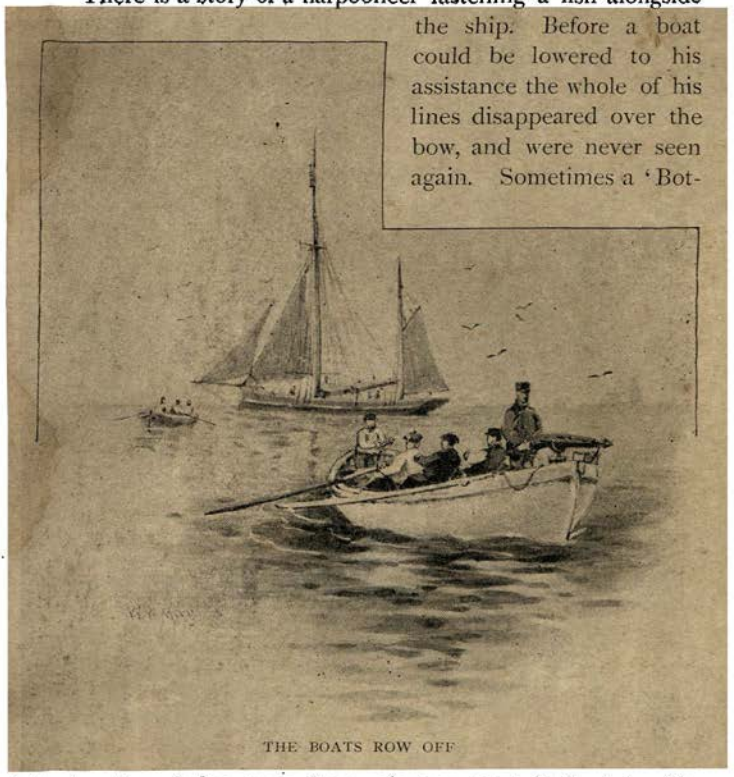
There is not the same risk attached to their capture, for their tails are not the formidable weapons wielded by the former fish, indeed the writer does not recollect a single instance in which a fish injured the boat with her tail; but they take line rapidly, and care must be used that the boat is not dragged down. Smaller boats, containing five men and four lines, are also employed for their capture. They generally roll something like porpoises, head, back fin, and tail appearing in succession, though at times they will play on the top of the water, and occasionally sail majestically round the ship. The writer once saw seven 'Chaney Johns' pass round the ship nearly in line, at a slow pace, blowing like so many locomotives leaving an engine shed.

The usual mode of capture is either to dodge slowly about where the water is the proper colour (a darkish blue, almost black in appearance), and the moment fish are seen, heave to and drop a couple of boats, placing one somewhere ahead of the ship, and the other astern; or heave to, and leave a boat or two on the bran; if fish are detected at a distance the boats row off in their direction and remain perfectly still about the spot where they last appeared.

If a fish is fastened, all the boats are sent away and placed round the 'fast boat,' as at first, at any rate, the other fish do not seem to take alarm, which often gives the chance of fastening two or three more. For a day or two after you have killed a fish they even seem to come more frequently near the ship than at other times. We always saw more fish before a breeze of wind and as it moderated than at other times. This was most aggravating to us, for, being a small ship, the swell used often to be too heavy for us to lower away. They take line with extreme rapidity at times; indeed, two of the fish the writer fastened took three lines in what appeared to be about three minutes. The first, a fish of about twenty-three feet,

eventually took out 5¼ lines (1,280 yards), and was hauled up dead in two hours and a half; the second, about twenty-six feet long, took 6½ lines (1,560 yards), and, receiving a second harpoon, was lanced in about two hours and three-quarters.

There is a story of a harpooneer fastening a fish alongside the ship. Before a boat could be lowered to his assistance the whole of his lines disappeared over the bow, and were never seen again. Sometimes a 'Bot-



THE BOATS ROW OFF

tley,' as the whalers term them, gives a good deal of trouble in course of capture. We once saw a ship with all her boats from six in the morning until long after noon killing one fish.

Fog, which is very prevalent in North Greenland, is one of the great dangers in this fishing, as the following anecdote will show. The boats of the *Chieftain*, a three-masted

IN PURSUIT OF THE BOATS

schooner, fastened a very strong fish when the fog came down thick, enveloping the four boats that were killing the fish. The ship lost the boats, and, a sudden breeze springing up, the men cut the lines and made for the ice, which was not far off. Three of them were fortunately picked up by other vessels; but the fourth reached the 'pack,' and, remaining there until the gale abated, made for Iceland along the cant of the ice, reaching it in a pitiable state, one or two of the crew having died of exposure, and others having to suffer amputation for frostbites. It was a bitter cold gale, ropes and everything were frozen. As well as we could make out this all happened within ten miles from where we were at the time.

We had a rather amusing episode on our voyage home to Lerwick when about a hundred miles from Shetland. About 6 A.M. I was awakened by the mate coming into the main cabin, and from my berth I hailed to know what was the matter. The mate reported the ship was running, with a light breeze on her quarter, under all plain sail and a balloon jib; also that 'three of them Bottleys had come along'; and as I had arranged to try to drop a hand harpoon into any fish that might be near enough, he had come down to pass the end of the lines up from the line room to attach to a line which had been coiled in a tub on deck for this purpose. When we started for Lerwick the lines had been coiled down, as they came out of the boats, in the line room, which stands just forward of the stove in the main cabin.

I jumped out of bed and helped the mate to tie up the two skylights and pass the end of the line on deck; but, thinking Bottleys down in these latitudes a myth, I returned to my bunk, and was almost asleep, when I was aroused by the noise of the line running, and a yell of 'A fall! a fall!'

The position was extremely ludicrous, for my friend and companion Mr. Grant in the berth opposite was shut in by the line-room door, which, being made of bars of wood, gave him the appearance of a wild beast at the Zoo, as, aroused by the cry, he jumped hastily out of his bunk; but I was in no better

position, for there was not time to put on any clothes, and owing to the weather being extremely fine, there having seemed little chance of my services as skipper being required suddenly on deck, I had retired to rest undressed.

In the meantime the line on deck was running merrily, and any moment we might expect the lines to begin to run from the line room; however, by this time, the steward, Kilgallon, appeared out of the pantry, much more respectable than his master, and the mate had rejoined us; so, directing them where to stand, I took up a position in the door of my berth, and prepared to do my best to keep the line clear of the cabin furniture.

There was not long to wait before the line started, and the fish still running at a considerable pace, the line flew out in great coils, the utmost activity being required to prevent the stove or some other useful article of furniture from being caught and carried out through the skylight.

The fish did not run much over two lines, and when she slacked a bit I got into some clothes, and, leaving one hand to watch the line, moved on deck, where I found Mr. Crowther (who is now away in the *Windward* with the Jackson-Harmsworth expedition to Franz Joseph's Land as ice-master) holding the line with one hand and putting on his trousers with the other.

It appeared that Valentine, the second harpooneer, had got out to the end of the bowsprit and cleverly dropped the harpoon into the fish as she passed under him. Jimmy Macmillan, one of the boat-steerers, had run the line with two turns at first, but finding it was likely to take fire, he had to take one turn off; and as the line was going a great pace, he kept looking aft to see whether it would fetch anything out of the cabin.

The ship was all aback, so, having lowered down the sails, we hoisted out a boat, and, putting a line and a hand harpoon in her, soon got up to the fish. A second harpoon was put into her when hanging her up to the bows of the boat; I then despatched her with a lance, but very nearly got a ducking, as

I somehow held the lance awkwardly, and was swung clean out of the boat by the struggles of the fish; however, maintaining the grasp of the lance, and allowing myself to swing like a pendulum, the return swing brought me safely back into the boat.

The cook had the greatest difficulty in rousing the watch below when a fall was called; he could not make them believe a fish was fastened, we were so many miles from the fishing grounds. It is doubtful if a fish has ever been killed so near our shores.

Bottlenose oil fell to 25*l.* per ton that year, and now hardly any but Norwegians follow this fishing. The fish also have become very scarce.

Before concluding this part of the chapter on Whaling, the writer wishes to thank Messrs. Robert Kidd & Co., of Peterhead, for their assistance. If any readers care to try whaling, they cannot do better than get the advice and aid of these gentlemen.

## AMERICAN WHALERS

For Arctic fishing Americans generally employ strongly protected steamers, much like the Scotch whaling vessels; but a good deal of ocean fishing is done by boats from the shore and ships of all descriptions, from schooners upwards. These vessels are generally provided with an apparatus to boil the blubber on board. The harpoon gun does not seem to be in general use except with some kinds of whales which, owing to the rapidity of their movements through the water, can only be fastened successfully with this uncertain weapon; but rockets and bomb lances, which are practically shells ignited by a time fuse either by the flash of the gun or concussion, are employed with great success. When a fish is fastened, one of these rockets fired into the right spot will soon kill it, and as they can be fired at a distance, a great part of the danger of whaling is obviated, viz. running the boat up close enough to put in a hand lance.

The average length of the whaleboats now in use is from

28 feet to 29 feet, with a beam of from 6 ft. 2 in. to 6 ft. 5 in., and they are provided with a centre-board. They carry 300 fathoms of very soft laid Manila line, which, during the process of manufacture, is sprinkled with whale oil as a preservative. The line is coiled down in two tubs, the largest containing 225 fathoms and the smallest 75. The big tub stands on the port side just forward the thwart for the stroke oar, and the small tub on the starboard side against the centre-board cover between Nos. 3 and 4 thwarts.

The loggerhead (i.e. bollard head) is placed right aft slightly on the starboard side of the boat, round which the line from the big tub is led, and down the boat through the score to the harpoon. They carry two harpoons on a 'mik' on the starboard side, and if the second harpoon is not used, it is thrown overboard and hangs on the line. There are other slight differences between British and American methods which space will not admit of noticing. The main one seems to be running the line from right aft, which would appear to be an advantage where one boat alone is employed to kill a fish, as it must be much easier to recover line and haul up to the fish to lance her. However, in the case of a foul line, the Scotch plan would appear to have advantages, as a harpooneer has been known, on the cry of foul line, to take the turns off the bollard head and throw the foul part of the line overboard, saving the boat and eventually securing the fish.

The officer in charge steers the boat, and the moment a fish is struck shifts ends with the man who has harpooned the fish. He comes aft and runs the line. The officer uses the bomb gun and lances. There may be other descriptions of boats and ways of fitting them, but this is a summary of the information the writer has been able to obtain from personal observation and research.

The whales taken by American fishermen with harpoons, &c., are as follows: The Sperm Whale (*Physeter macrocephalus*), Right Whale (*Eubalæna*), Pacific Right Whale (*Balæna japonica*)—it may be noted that there are said to be several species of the

Right Whale—Bowhead, Greenland Whale (*Mysticetus*), Humpback Whale (*Megaptera*), Californian Grey Whale or Devil Fish (*Rhachianectes glaucus*), the Sulphur-bottom Whale (*Sibbaldius sulfurus*), the Fin-back (*Balænoptera velifera*).

The Sperm Whale is an extremely awkward fish to approach, for at times she uses her mouth (the lower jaw of which is armed with a formidable row of teeth), flukes and tail with terrible effect. There is an instance of a fish destroying three boats and injuring the ship herself, and the ship *Essex* was actually sunk by a Sperm deliberately charging her twice. A most interesting account of this catastrophe will be found in the 'Century Magazine' for August 1890.

The best way to approach this fish is head on, under sail if possible, as, owing to the position of her eyes, she cannot see well ahead. The other alternative recommended is to approach the whale from behind on the starboard side, so as to give a right-handed dart. The boat, ranging alongside, proceeds parallel to the fish about one to two fathoms, or possibly three or four from her, until far enough forward, when the harpoon is thrown into the back.

The Right Whale is provided with powerful flukes, from twelve to fifteen and sometimes twenty feet in length, and five to six feet deep, and the fish occasionally uses them with disastrous effect on her pursuers. The most approved mode of fastening this species appears to be to sail right over the centre of the fish and dart the harpoon as the boat strikes her. These whales have the power of settling like a lump of lead when an offensive object comes in contact with them, so that the boat passes over in safety. The Californian Grey Whales are not large, but are reported to be the most dangerous species of the whale tribe to take. Harpoon guns, rockets, or bomb guns are said to be a necessity in their capture.

The same method of capture appears to apply to the Sulphur-bottom and Fin-back, though in shoal water it seems that the bomb gun is frequently fired first, and if there be time the harpoon is put in. If the fish sinks dead, she

will rise after a certain number of hours or days, and is usually recovered.

In the space at disposal it is impossible to say much on this widespread and varied fishing industry, extending as it does over thousands of miles of the ocean, from the Arctics to the Antarctics; but if the reader wishes for further information, he may be advised to read 'The Fisheries and Fisheries Industries of the United States,' 1887, by George Brown Goode.

## HARPOON GUNS

The American fishermen do not look on harpoon guns with much favour, and the writer, from his own observations, is very greatly inclined to agree with them. The harpoon at times flies very true, but, again, it is most erratic in its flight, even striking sideways and failing to fasten the fish. This is probably due to the momentary check the *shackle*[1] and foregore give when the former reaches the end of the harpoon. It takes a very quick eye and some one well accustomed to the use of firearms to observe this deflection of the flight of a harpoon, and probably that is the reason why the Scotch fishermen seem quite satisfied with the gun at present in use; but it is more than likely some of the misses which one hears of, and which are put down to bad shooting, are caused by the harpoon not flying true. The mark is big and the distance short, so, although a harpooneer may be bothered a little by the lop of the sea, provided he is cool and can hold straight, a miss ought hardly, if ever, to occur.

In these days of electricity and other inventions, surely some better motive power than powder might be invented. Compressed air might do, or some power, such as a strong spring, that would give a more continuous steady propelling force.

With a view probably to get over the difficulties enumerated

[1] 'Shackle'—some harpooneers put a small piece of cork between the bars of the harpoon at the end that goes into the gun, to deaden the shock.

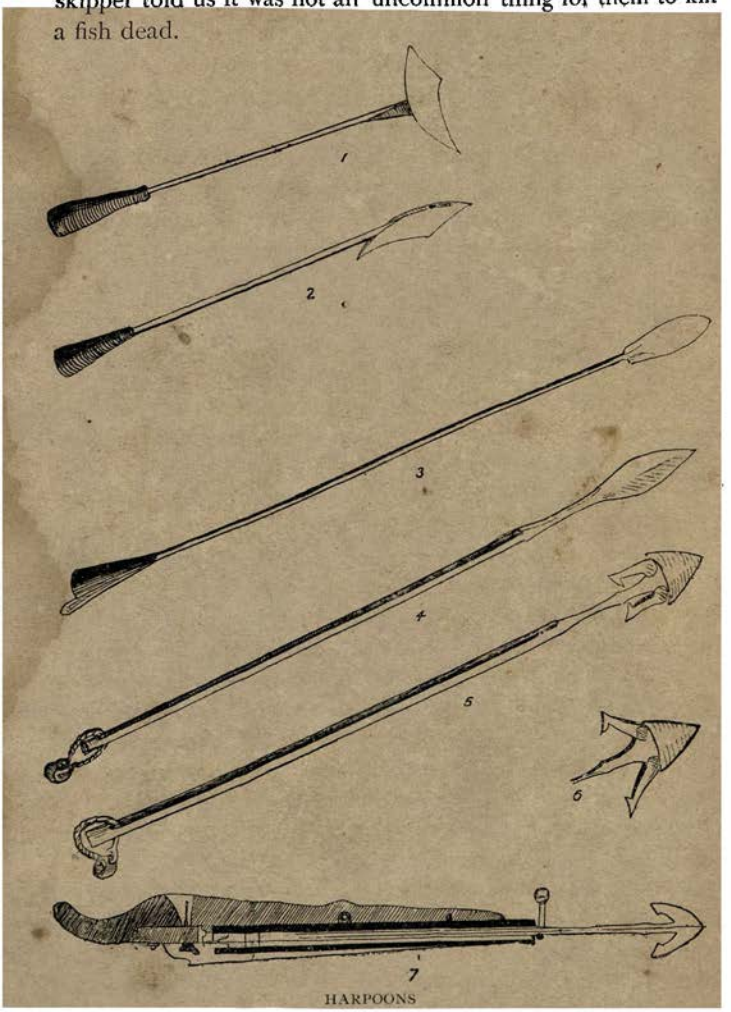
above, Messrs. Mason & Cunningham, the American makers, brought out a gun with a very ingenious contrivance by which the butt is allowed to recoil against rubber cushions, thus converting the blow of the recoil into a push. The writer is not aware what success attended this gun.

The Americans have other most ingenious inventions in the way of explosives, both as harpoons and lances, but there is no space to notice them here. A description of most of them will be found in the 'Fisheries of the United States,' previously quoted in this chapter.

The gun that appears to be most in use is one made by Messrs. Greener, a muzzle-loader weighing from seventy to seventy-five pounds. Messrs. Bland brought out a double-barrel breechloading gun in 1885, one barrel to take a harpoon and the other to discharge a shell which explodes by concussion. By a neat arrangement of the barrels the shell hits thirty inches from the spot the harpoon strikes. Peterhead people know the gun, but they cannot give any instance of its being tried on a fish.

In 1884 the Norwegian ships had a very neat-looking breech-loading gun, mounted on a carriage which, as well as the writer recollects, was intended to take the recoil of the gun much in the same plan as the American rubber cushions described above. Their harpoons were much lighter than, and of different make from, the Scotch irons. They are fitted with a single double-ended movable barb, like two spoons joined together by the handles, and attached in the centre to the end of the harpoon. To prepare them for firing, one of the spoons is turned over and lightly lashed with spun yarn to the harpoon, leaving the other like an arrow-head to enter the fish. The moment the strain of the line comes on the harpoon, the spun yarn breaks and releases the barb, which explodes a shell in the front part of the harpoon. The barb jams in the fish at a right angle to the shank of the harpoon, and if it once gets a good hold, there ought to be little fear of its drawing. They seemed to do well for Bottlenosing, and one Norwegian

skipper told us it was not an uncommon thing for them to kill a fish dead.




HARPOONS

Scotch whalers had at that time an objection to this gun on the grounds, as far as the writer could make out, that there was

no 'Proof House' in Norway to test guns, and in consequence no guarantee against their bursting.

Harpoons are made of soft Swedish iron, which will bend into any shape and not break. Great care must be taken in their construction, as the fish twists them into the most extraordinary shapes, and any flaw or bad piece of work might result in a fracture entailing the loss of a valuable fish. The shapes and patterns of the barbs are innumerable, and the writer has only been able to give diagrams of a few of the principal at present in use.

## WHALE FISHERIES OF FINMARKEN, NORWAY

The whales on these stations are too strong and rapid in their movements to be successfully captured in the ordinary way, and not much appears to have been done with them until Captain Svend Foyn, of Tönsberg, invented and patented in 1860 a particular kind of harpoon which is fired from a swivel gun in the bows of a small steamer.

The guns are steel muzzle-loaders, and the gun harpoon contains a shell which bursts when the fish is fastened. For this purpose the barbs of the harpoon are made movable, and secured by a piece of rope yarn which either slips off in passing through the flesh, or breaks when the strain of the line comes on the harpoon. The opening of the barbs, four in number, breaks a glass tube of sulphuric acid, which runs down into the powder and explodes the shell. The harpooneer tries to fasten the fish in the ribs, or as near as possible to the spinal column.

As the whale is generally killed dead by the shell and almost always sinks, it is necessary that the line should be long enough to reach the bottom where you are fishing; the usual length is five hundred fathoms of five-inch, with a foregore of thirty fathoms of four and a half inch stuff.

The vessels are rigged as fore and aft schooners, and carry a crow's nest on their foremast. They are also supplied with

a very ingenious apparatus for raising the dead whale from the bottom. If the harpooneer fails to strike the fish dead, it often takes hours to kill, necessitating the use of a bomb gun or a lance from a whaleboat carried for the purpose.

The whales are not flensed at sea, but lashed alongside the steamer and towed to the station on shore, where the oil is boiled.

Captain Foyn established his fishery at Vadsö in 1884, and was successful from the first. The number of stations gradually grew until there were five in 1881 and eight in 1882, when Captain Foyn's patent expired. Since then the number has continued to increase.

The species of whales said to be taken are: Blaahvalen (*Balænoptera Sibbaldi*, Gray), Finhvalen (*Balænoptera musculus*), Seivalen,[1] (possibly *Balænoptera laticeps*) Knolhvalen (*Megaptera boops*, Fabricius). The first of these is the largest, reaching sometimes ninety feet.

Owing to the kindness of Captain Thomas Bech, of Christiania, I am enabled to give the dimensions of two of these whalers. *Ingebong*: Length 81 ft.; beam 16 ft. 8 in.; depth 10 ft. 7 in. Gross tonnage 86. Register 25. Price 60,000 kroner (about 3,333*l.*). Plan of whale steamer—Captain Bech: Length 90 ft.; beam 17 ft. 6 in.; depth 10 ft. 8 in. They usually steam from nine to ten knots, and carry a crew of nine men all told.

The Emperor of Germany has visited these fishing grounds, and by his skill in fastening fish proved himself in this, as in so many other things, quite an expert.

In 1873 the King of Norway and Sweden gave me a description of the capture of a fish in Varanger Fjord, which his Majesty witnessed a day or two before from his own vessel. Two vessels went out in company, and when the fish were sighted the whaler started in pursuit, the vessel with his Majesty on board following, but keeping in such a position as to be able to see the shot and not to interfere with the sport. After a little manœuvring the harpooneer got a chance and

killed the whale dead, when, as usual, the fish sunk to the bottom; but, the water being shoal, she was soon raised to the surface and brought alongside. Everything was extremely well managed, as his Majesty had a complete view of the whole proceedings.

The Arctics seem to have an extraordinary and incomprehensible attraction for some people; and when it is coupled with whaling, to the author it becomes almost irresistible. Indeed, writing this chapter brings back vividly to his imagination the pleasant days he has spent in the ice and on the fishing grounds, until he longs once more to hear the old cry 'A fall!' and seems drawn by some magnetic power towards the north.

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Digitized with financial assistance from
Hermès India
a project facilitated by the Rotary Club of Bombay

on 10 August, 2018